

11 JUNE 1987



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JPRS Report

Soviet Union

Economic Affairs

SPECIAL NOTICE

Effective 1 June 1987 JPRS reports will have a new cover design and color, and some reports will have a different title and format. Some of the color changes may be implemented earlier if existing supplies of stock are depleted.

The new cover colors will be as follows:

CHINA.....	aqua
EAST EUROPE.....	gold
SOVIET UNION.....	salmon
EAST ASIA.....	yellow
NEAR EAST & SOUTH ASIA...	blue
LATIN AMERICA.....	pink
WEST EUROPE.....	ivory
AFRICA (SUB-SAHARA).....	tan
SCIENCE & TECHNOLOGY.....	gray
WORLDWIDES.....	pewter

The changes that are of interest to readers of this report are as follows:

USSR reports will become SOVIET UNION reports.

The USSR REPORT: NATIONAL ECONOMY will be titled SOVIET UNION/ECONOMIC AFFAIRS (UEA).

The USSR REPORT: POLITICAL AND SOCIOLOGICAL AFFAIRS will be titled SOVIET UNION/POLITICAL AFFAIRS (UPA).

The following Soviet journals will be added to those which are already issued in separate series:

- EKO: ECONOMICS & ORGANIZATION OF INDUSTRIAL PRODUCTION (UEO)
- THE WORKING CLASS & THE CONTEMPORARY WORLD (UWC)
- PEOPLES OF ASIA & AFRICA (UAA)
- MILITARY HISTORY JOURNAL (UMJ)
- FOREIGN MILITARY REVIEW (UFM)
- AVIATION & COSMONAUTICS (UAC)
- SOCIOLOGICAL STUDIES (USS)

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11 JUNE 1987

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ROZENOVA'S BOOK ON PRICING NEW TECHNOLOGY REVIEWED

Moscow PLANOVYE KHOZYAYSTVO in Russian No 2, Feb 87 pp 126-128

[Review by O. Portugalova, candidate in economic sciences, entitled "The Role of Prices in Accelerating Scientific-Technical Progress", of book by L. I. Rozenova, "Tsena i novaya tekhnika" [Price and New Technology], Moscow, Ekonomika, 1985, 143 p]

[Text] The monograph under review clearly presents the most difficult problems of methodology for determining prices on new technology. The author does not evade controversial questions, but rather presents them more acutely, as if prompting the reader to seek a more radical means of stepping up the role of prices in scientific-technical progress.

The work devotes particular attention to the problem of certifying product quality. It levels criticism at the situation which exists in current practice in which "the Seal of Quality is first granted to previously assimilated products whose production has reached a stable technology and improved culture even though its technical-economic parameters have not improved" (p 13). Therefore, in the opinion of L. Rozenova, we must introduce a means of determining the indicator of product innovation for purposes of price formation. It is "not the method of developing production, but rather the improvement of its design and operational characteristics." We may cite numerous examples of cases where a product bearing the Seal of Quality is well made but certainly cannot serve as the example of technical achievement from the standpoint of its design, material consumption and effectiveness.

Certification of production is a necessary matter, but for the product manufacturers not only moral, but material incentives are important. And this is a set of interrelated problems. The author of the book stresses that in recent years certain measures have been taken for the solution of these problems. Thus, the wholesale price on a new machine includes the planned production cost not of the second or even the third year of manufacture, as was the case previously, but already of the first year of series output. However, as a result of this there has been an increase in the cost of new products. Therefore, those critical comments which are constantly appearing in the press regarding the sharp increase in prices on new machines are fully justified.

An important problem which has been reflected in the work is the combination of the plan-accounting and incentive functions of prices. The author, in our

opinion, rightly notes that using prices to stimulate an increase in the technical level, quality and effectiveness is incompatible with long-term price stability. At the same time, for convenience of developing all plans it is preferable to have stable prices. Nevertheless, it is more important to ensure flexibility of prices which reflect the structural shifts in production and dynamics of expenditures. And in order for more real prices to be used in plan development, it is necessary to have plan price indices by sectors and subsectors and by consolidated types of production.

Undoubtedly, the decisive importance in stimulating the production of new products belongs to incentive mark-ups. The author believes that "incentive mark-ups are an economic lever which increases the interest of the enterprises" in assimilating new and highly effective production (p 76).

However, and the author admits this, despite the "additional economic stimuli, highly effective technology is still being insufficiently assimilated in industry...and a large part of the technology assimilated in production differs insignificantly in its technical-economic parameters from that which was previously produced" (p 77). L. Rozenova sees the solution to this problem in the development of "a set of standards which would ensure reliability and control over the quality of new technology" and "the improvement of work on unification in the development, production and application of the products". It seems that despite all the significance of such work, the ultimate solution is hidden elsewhere. We need to have a real responsibility by the manufacturers, and not only their desire to obtain a higher price. In this connection, price discounts--an instrument of compulsion--must play a peculiar role. However, at the present time these economic sanctions are extended only to products which are not certified as being the highest category and subject to removal from production, while there are discussions in the press about the question of introducing price discounts on outdated products.

Another no less important problem concerns the accounting of economic effect from the introduction of the new technology (p 64). And the matter here is not only that the social effect presented by the new technology in the form of growth of labor productivity due to improved conditions of labor, comfort, increased labor safety, etc. is not yet fully considered. Rather, the question is one of reliability of all the computations of effectiveness. It is specifically the economic effect determined by the manufacturing enterprise which is the least reliable of all the economic indicators used in setting prices. The author tries to find means of improving the methodology of determining effect and prices on new technology. Thus, he proposes strengthening control over the substantiation of computed economic effect and increasing the responsibility of the producer and the consumer of new technology for the accuracy of accounting. The specific peculiarities of computing economic effect for purposes of price formation as formulated by L. Rozenova are interesting (p 67-68). Much attention is devoted to the factor of obsolescence in determining economic effect. In our opinion, the author justly maintains that "the effectiveness of new technology cannot be evaluated from the standpoint of the individual consumer, but that it must receive national-economic acceptance" (p 71).

The problem of stimulating the economical utilization of materials in machine building with the aid of prices is a current one. "The relative share of material

expenditures in the production cost of machine building products comprises an average of 70 percent" (p 85). However, for many types of products there is still not sufficient control over material consumption at the planning stage. The metal use coefficient used for economic computations reflects the actual expenditure of the resource, but by far not the most effective one. There are often cases also of underestimation of metal consumption in domestic products as compared with foreign ones (p 88).

The author proposes that the real expenditure of metal (for manufacture of the machine and the set of spare parts for it) be defined in computing the specific metal consumption. To increase its role, it is proposed that this indicator be given decisive importance.

In recent years, the problem of relative reduction in price of new technology for the consumer has been widely discussed in the press. In analyzing this problem, L. Rozenova gives a definition of useful effect (p 103). We know that the specific price of a unit of ultimate useful effect of a new product must be lower than the specific price of a previously assimilated product. Often it is proposed that the computation of relative price reduction on new production be done according to some single parameter. The author of the book justly points out that in determining the effectiveness of new technology even by the leading (main) technical-economic parameter, no consideration is given to the dynamics of operational characteristics of the new production, nor to the amount of additional profit obtained by the consumer from the application of other advantages of the product.

L. Rozenova notes that since 1983 there has been no absolute reduction in price of technology, since the economy due to reduction of material- and labor consumption of new machines remains in the manufacturer's price in the form of surplus profit. [This absolute price reduction] is implemented only during a general review of prices, but for certain new machines and equipment we may observe a stable growth in expenditures needed to obtain each ruble of economic effect. This negative tendency arises from shortcomings in production--from the presence of above-norm reserves of uninstalled equipment submitted for installation but not placed into operation, and from the low rate of assimilation of production capacities.

At the present time, a process of a certain reduction in prices per unit of useful effect is observed in machine building. At the same time, however, there is also an increase in the average price for groups of products. The author explains this by the action of objective reasons, and primarily by the rapid renewal of production which is characteristic for machine building, as well as by the structural shifts in production in the direction of technologically improved but also more expensive equipment. There are also subjective factors associated with the "erosion" of relatively inexpensive product assortments, though very necessary to the national economy.

Specifically, L. Rozenova sees a possible solution to these problems in the formation of an interdepartmental fund for the assimilation of principally new technology. Society must take upon itself the reimbursement of increased expenditures at the initial stage of production of new technology. Part of the profits of sectors producing and consuming the new technology should be deducted into this fund.

On the whole, the monograph stands out in the well-justified solutions which it proposes and in its clarity of presentation of most complex questions. It will be useful to a broad circle of economists.

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SHIFT TO FULL ECONOMIC ACCOUNTABILITY, SELF-FINANCING VIEWED

Moscow FINANSY SSSR in Russian No 3, Mar 87 pp 3-11

[Article by V. A. Rayevskiy, chief of the Administration for the Financing of Heavy Industry of the USSR Ministry of Finance: "Conversion of Industry to Full Economic Accountability and Self-Financing"]

[Text] An important aspect of the integrated system of administration and management that is called on to enable our country to move up to new and higher rungs of economic and social development is the reinforcement of normative foundations in planning and in stimulating production. Long-term economic norms are an integral component of the organization of economic accountability in the sectors of industry, construction, trade, and transport that converted to the new operating conditions at the first of the year.

The enterprises of several industrial ministries are operating on the principles of self-financing and have demonstrated their vigor by carrying out economic experiments at AvtoBAZ [Production Association of Volga Automobile Plants] and at the Sumy NPO [scientific-production association] imeni M. V. Frunze. The associations and enterprises carrying out these principles in their financial and economic activities are not only compensating for the costs of producing and selling goods, labor, and services and acquiring profits, but through profits and other internal sources they are also covering all the costs of developing production and participating in the formation of the industry's centralized reserves and income for the state budget. The conversion of associations and enterprises of sectors of the national economy to self-financing is an important step on the way improving economic methods of management and the introduction of full economic accountability, and it provides a firm financial base for expanding the rights of associations and enterprises in planning and economic activities and increasing their responsibility for their work results.

Among the ministries entrusted to try out the new economic conditions is the USSR Ministry of Petroleum Refining and the Petrochemical Industry. This choice was no accident. The problem of satisfying the growing needs of the national economy and the populace for the industry's output when there is minimal increase in the supply of raw material, materiel, and fuel and energy

resources is being solved in the 12th Five-Year Plan mainly through improvement in the quality of petroleum products, tires, rubber goods, and other types of the industry's output and by intensified refinement and integrated utilization of petroleum raw materials. The strategic line reflected in plan targets for growth in production and application of advances in science and technology, and for capital investment and putting fixed capital to work is being reinforced by the definite cost-reduction thrust of the economic mechanism.

Developing the methods and improving the practice of planning, financing, and accounting in the USSR Ministry of Petroleum Refining and the Petrochemical Industry and in the enterprises of other ministries will prepare for the conversion of all industry to the new operating conditions in the light of the specifics of the sectors and the tasks of the long-range plans for economic and social development. Of interest in this connection is the experience of solving individual problems of converting the industry to the new operating conditions and of developing the normative documents that will specify the activities of associations and enterprises.

Restructuring the process of planning and economic accountability on the basis of the five-year plan is of great importance in achieving resources to reduce costs in the industry. In the system of approved indicators and norms only the limits of material and technical supply and the output of goods in physical terms are shown as a consolidated list in the five-year plan, and in the annual plan they are spelled out and accordingly expanded somewhat. All the remaining indicators of the annual plan are in complete accord with the five-year plan. Thanks to this, in-depth resources are drawn into the orbit of actual planning decisions that improve the capital-output ratio and profitability, reduce the costs of producing goods, and increase savings due to technical progress, acceleration of the reequipping and rebuilding of enterprises, and the integrated use of raw materials and materiel.

The anti-cost thrust of the new operating conditions is emphasized by the fact that the foundation of the self-financing activities of associations and enterprises is profit, which serves as the most important generic economic indicator. A direct relationship has been established between the resources and income that associations and enterprises have at their disposal and the efficiency of their operations. The funds that finance the costs that support scientific, technical, production, and social development and material incentives are to be earned by the associations and enterprises themselves.

For each of them there have been established stable five-year norms for payments to the production funds. The economic literature has produced much evidence of the inadequacy of payments to the funds. Science and practice are persistently seeking ways of improving the effectiveness of this economic lever, since the principle of paying for resources made available to enterprises reflects more completely than anything else the requirement to improve the fixed capital-output ratio and accelerate turnover of physical assets. One of the shortcomings of economic practice in the past was the unwarranted limitation of the range in rates -- generally from 3 to 6 percent. On an

industry-wide average the actual payments did not exceed 4 to 4.5 percent. On this principle highly profitable enterprises had an extremely high quota of payments to the budget from their rated profits, and as a result their interest was lowered in achieving additional savings, since an enterprise could obtain only an insignificant share of the monetary resources for its own use.

This situation shows up even more clearly when putting the system of distributing profits in the context of a five-year plan, where the issue is not just the profits obtained above plan during a year, but also the opportunities of using long-range factors to improve efficiency in the process of carrying out the five-year plan, which means profits obtained above five-year targets. On the other hand, several enterprises used to be exempt from paying to the funds with virtually no explanation of the causes of the shortage of profits to cover plan expenditures. And this deprived the economic mechanism of an important element -- the principle of paying for resources.

Expanding the range of payments to the funds (from 2 to 12 percent) has decidedly expanded the number of enterprises making them. Throughout the ministry as a whole the norms for payments to the funds has been increased by 6.4 percent, while it used to be 5.6 percent. Now about 30 percent of the industry's plan profits will be invested in the budget in accordance with the efficiency with which associations and enterprises use resources, and this is an additional factor with a strong impact on the fulfillment of plan targets for production, for cost reduction, for profits, and for the involvement of commodity stocks in economic turnover and acceleration of their turnover rate.

It is thought, however, that in the process of converting the USSR Ministry of Petroleum Refining and the Petrochemical Industry to the new operating conditions everything has not been done to increase the role of these payments. The main reason is that norms for profit distribution have been adopted first on the base of centralized estimates for the ministry as a whole, and then for its VPO [scientific-production associations] and republic subdivisions. In several cases this has predetermined the formation of norms for payments to funds at a base level established in conformity with the old conditions. The disadvantage of the system of profit distribution previously in force has remained: in many cases enterprises are left with only an insignificant part of additionally generated profits, and this reduces the incentive effect of the norm.

For example for the UkSSR's Glavneftekhimprom [Main Administration of the Petroleum Refining and Petrochemical Industry] deductions for the budget from rated profits are specified in the amount of 65.32 percent and for the Azerbaijan SSR's Ministry of Petroleum Refining and the Petrochemical Industry they are 74.99 percent. Obviously, this difficulty will be overcome when forming the indicators for the next five-year plan, when it will be wholly feasible to realize the principle of forming plans from below -- from the production associations and enterprises.

The approval of norms that are stable for the entire five-year plan for payments to the budget from rated profits create a firm foundation for the finan-

cial support of the industry's economic and social development. This is an important factor in heightening interest in increasing savings and responsibility for economic results. Lowered efficiency in using production potential and increase in production costs are directly reflected in the amount of profit left for the use of the enterprise. It is now clear to every worker of a collective how much of each ruble of profit earned remains at the disposal of the enterprise to develop production and to meet sociocultural demands and material incentives for the workers.

The underlying principle of financial planning -- the interrelation and interdependence of financial and production indicators -- still retains its full importance. The norm for deductions for the budget from profits is based on the ratios of profit distribution in the base year and on the targets and estimates of the five-year plan.

The experience of specifying norms has proven instructive. At the first stage a combined norm for deductions for the budget from rated profits was specified for the ministry and for the scientific-production associations, according to the combined amount of profit left in an enterprise. However, while this principle was in force for the enterprises, the norm in the master reimbursement plan began to diverge from the original value specified, while the estimated amount of payment stayed the same. Deductions from scientific-production associations and enterprises for various funds fluctuated from year to year. The norms for deductions for the budget from rated profits for the enterprises of subsectors of union subordination varied from 18 percent for the Soyuzkauchuk Scientific-Production Association to 62 percent for the Soyuzuglerod Scientific-Production Association, and profits remaining in an enterprise for the purpose of self-financing varied from 29 percent for the Soyuznefteorgsintez Scientific-Production Association to 69 percent for the Soyuzkauchuk Scientific-Production Association, and up to 84 percent of rated profit for the Soyuzslantsepererabotka Scientific-Production Association.

This has been decidedly affected by intra-industry structure, the construction and startup of major facilities and associated investment costs, the liquidation of bank loans for these purposes, and the formation of reserves. In the final two years of the five-year plan liquidation is to begin of bank credits extended to set up economically grounded norms for working capital. In our opinion, the maximum values of these expenditures should not be counted in the future when setting up norms for enterprises. They should obviously be financed from the centralized reserve of the ministry, and the norms for forming that should consider the need to accumulate the appropriate financial resources for this, which will substantially affect the reliability of the norms.

All this must be the subject of careful analysis and on that basis procedures for self-financing must be specified that will proceed along an unbeaten path and in many cases will raise new problems of finance-credit relations in industry.

The high norm for payments to the budget from rated profits has shown that in several cases the problem has not been solved of increasing the stake in additional savings. Of course one of the reasons is underutilized opportunities to increase payments to funds. A role has been played by the fear of losing more in case of unstable operation, since it is well known that payments to funds are made independently of financial results. And obviously we must keep on the agenda the issue of setting up a single ratio for distributing above-plan profits. This issue has frequently been raised but a solution to it has foundered firstly on the low level of payments to the budget that has developed in many industries and secondly on the costs of previous methods of planning and management, under which problems caused by underestimation in the plan of various expenses were shifted to the acquisition of above-plan profit. Therefore, a timely solution to this problem requires an integrated approach that completely utilizes all opportunities for improving the practice and methods of planning and incentives. The goal, which is to create equal interest in and responsibility for work results, serves to direct the analysis of factors toward further improving the efficiency of the profit distribution system when solving problems.

An important aspect of the new operating conditions is putting interrelations with higher-level organizations on a strictly normative foundation.

The majority of previous systems of allocating funds for the ministry to make centralized expenditures for scientific research, which were linked to the improvement of the intra-industry structure of investment, the formation of reserves to fund economic incentives, and the extension of economic aid, have been replaced by a single channel of centralized monetary resources with individual norms that are stable for a five-year plan. Any other withdrawal or distribution of profits or other funds by the ministry is ruled out.

Under the previous system part of the centralized funds and reserves were formally based on norms. But these norms were in force only at the ministry level. Enterprises were annually assigned sums that were to a considerable degree arbitrarily specified and subject to redistribution by a higher-level organization. There were no such norms, for example, for certain types of funds earmarked to cover plan losses or expenditures of less profitable enterprises that lacked their own sources of financing. This was the basis for the 27th Party Congress to condemn the practice of covering the financial losses of unsatisfactorily performing enterprises with funds from outstanding firms.

In the Ministry of Petroleum Refining and the Petrochemical Industry the norms for deductions for the ministry's reserve have fluctuated between 3 and 42 percent of rated profits. Proposals to establish common norms for the participation of enterprises in the formation of centralized funds and reserves have not taken into account variations in profitability that are independent of an enterprise's activities and caused by differences in the technical base and in the nature of the goods produced. Some enterprises, for this reason alone, have been exempted from paying into the funds, while others have been assigned a high norm of payments to the budget, which, as we have noted, has a negative effect on their interest in accumulating further savings. The centralization

of funds in a group of highly profitable enterprises has largely eliminated this problem, since it is an added factor in the average rated profit remaining at a firm's disposal.

An important aspect of financial planning under the new conditions is the grouping of all the planned expenditures of enterprises under three funds in accordance with the main purpose for utilizing the funds: material incentives; sociocultural measures and housing construction; and development of production, science, and technology. The sole source of the first two is profits, and a source of the third is also amortization and proceeds from the sale of surplus property.

While outwardly similar in titles and sources, the funds are qualitatively different from the funds of the same names of enterprises operating under the old conditions. Take, for example, the fund for material incentives. Under the new conditions it is the sole source of bonuses over and above the wage fund. The formation of it takes into account types of bonuses formerly paid on the basis of production costs and various kinds of deductions from profits. There has been a corresponding increase in balance profits and stable norms have been established for deductions from it for the material incentives fund, which have broader target designation and are differentiated by year within a five-year plan.

The fund for sociocultural measures and housing construction, unlike the fund of the same name, now includes resources targeted to cover losses in housing and municipal services, compensation for the difference between purchase prices and retail prices for agricultural products, the difference in prices for fuel and electric power for housing and municipal services, the maintenance of buildings, premises, and pioneer camps, the maintenance of pre-school facilities, and centralized investment in non-production facilities, which were previously allocated under the state plan.

The estimated fund for one of ministry's production subdivisions is shown in Table 1.

The fund for the development of production, science, and technology has the most extensive target designations. It includes the resources of the former fund for production development, expenditures for investment in production facilities that were formerly financed under the state centralized investment plan (except for new construction) and for the liquidation of loans from USSR Stroybank [All-Union Bank for the Financing of Capital Investments], participation in the construction and maintenance of motor roads, scientific research and its application to production, increase in the norm for in-house working capital, prototype design, covering the excess of wholesale over retail prices for children's wear, personnel training, covering plan losses, maintenance of management staff, and much else.

This grouping of an enterprise's expenditures, in combination with the unification of the sources of their financing creates broad opportunities to maneuver resources and expand the enterprise's rights to utilize them. Also sim-

plified is the planning process itself, which used to be linked to a detailed overestimate of each item in the balance of income and expenditure, which experience has shown did not in any way improve the soundness of planning, since when setting plan targets at the industry level there was no way to take account of the diversity of factors and conditions at the lower operating level.

Table 1.

1 (тыс. руб.)					
	1987	1988	1989	1990	1987-1990
2 Прибыль, оставляемая в распоряжении хозяйства	130 272	138 105	148 133	166 739	583 249
3 Фонд социально-культурных мероприятий и жилищного строительства в старых условиях	4 100	4 320	4 860	5 420	18 700
4 Расходы на покрытие убытков ЖКХ	3 570	3 731	3 891	4 047	15 239
5 Расходы по хозяйственному содержанию зданий, помещений и пионерлагерей	1 132	1 300	1 350	1 400	5 182
6 Содержание детских дошкольных учреждений	6 022	6 288	6 687	7 249	26 246
7 Государственные капитальные вложения по непромышленным объектам за исключением нового строительства по предварительному проекту	24 300	23 900	23 700	23 700	95 600
8 Итого средств фонда в новых условиях	39 124	39 539	40 488	41 816	160 957
9 Норматив в % к прибыли, оставляемой в распоряжении хозяйства	30,03	28,63	27,33	25,08	27,50

Key:

1. Thousand rubles
2. Profits remaining at the firm's disposal
3. Fund for sociocultural measures and housing construction under the old conditions
4. Expenditures to cover losses in ZhKKh [housing and municipal services]
5. Expenditures for maintenance of buildings, premises, and pioneer camps
6. Maintenance of pre-school facilities
7. State investment in non-production facilities, excluding construction under preliminary design
8. Total of fund resources under the new conditions
9. Norm, as a % of profits remaining at the firm's disposal

However, this also puts great responsibility on the ministry's finance officers. Everything that is actually in working capital, such as payments under scientific research contracts, various types of payments from special-purpose funds, delivery deadlines standardized per payment terms and other fixed liabilities, the cost of equipment and other physical assets previously paid for by capital investments, etc., must be utilized in accordance with their target designation. The broader opportunities for financing costs out of

profits must not lead to underestimation of an enterprise's internal resources.

Under the new conditions any tendency of a price to "take over" resources out of fear of losing the base for obtaining them in the future is ruled out. The resources of the fund for the development of production, science, and technology are not subject to withdrawal or redistribution. On the contrary, the accumulation of them by associations and enterprises to efficiently carry out measures in subsequent plan periods is rewarded, since banking institutions will pay interest on them. This is understandable, since the funds are not out of the national economic turnover. The bank utilizes them as a resource for making loans.

The facilities of USSR Gosbank are given an opportunity to have an effective impact on the rational utilization of working capital, the reduction of above-plan stocks of commodities, and the timeliness of rates by raising or lowering interest rates on loans by 50 percent, in accordance with the level of operation.

The formation of the three funds under the new conditions makes it easier to solve problems of stabilizing norms, since there exists in principle a major purpose for bank loans -- the combined demand for funding for a specified target designation, together with a guaranteed source of repayment in the form of payments to the funds against established norms. However, this issue still requires further serious development and verification in practice. Obviously, it will not be immediately possible to do away with the traditional purposes of financing that provide for controlling specific sectors of industry -- construction and stocks of equipment and other commodities. The important thing is that the new operating conditions provide an approach to improving the practice of making loans on the basis of granting a loan for consolidated purposes and of setting up a loan plan for a year.

One of the most important decisions made when setting up the terms of the first economic experiments in industry was the creation on the level of associations and enterprises of a financial reserve for independently solving problems of covering unforeseen costs and losses. As you know, such funds existed before, although with limited opportunity for targeting resources for specific needs, and only at the upper levels of management. In the USSR Ministry of Petroleum Refining and the Petrochemical Industry and other ministries that have converted to full economic accountability and self-financing a financial reserve of associations and enterprises may be set up in the amount of 5 percent of the amount of profits targeted to form the fund for the development of production, science, and technology and the fund for sociocultural development and housing construction. This considerably enlarges the base for forming the financial reserve, since under the old conditions its establishment was linked solely to the norm for working capital, and at that time the approaches to utilizing the reserve were much broader.

The cost-reduction trend of the economic mechanism in force in the petroleum refining and petrochemical industry is underlined by the fact that net produc-

tion as an indicator will be used for the first time to estimate growth in labor production, formation of the wage fund, and control over its utilization. This increases the stake of associations and enterprises in saving on material and strengthens the dependence of labor productivity and the wage fund on operational results. The growth rate of commodity production is given only approximately in the five-year plan to define the dynamics of production development and to estimate structural correlations and industry and territorial proportions.

The conversion to this indicator by the ministry's associations and enterprises as the first in the country imposes special responsibility on the ministry's staff and on the economic services of the associations and enterprises to carefully prepare all levels of the industry and most of all to study its special features in interrelation with the entire system of indicators and norms.

Proposals to use net production as an indicator to estimate economic activities have long been familiar. Several economists have linked its advantages to opportunities to construct a cost-accounting indicator that reflects newly created value. The fact is that planning and statistical agencies have already defined this indicator by means of computation to reveal the contribution of individual material production industries to the generation of national income.

However, attempts to construct this type of indicator on the enterprise level failed in due time, mainly because of the complexity of operationally defining material costs. The employment of normative net and quasi-net production in industries where the same types of goods are produced in enterprises with differing technical levels of production led to a substantial disparity between the indicators used to estimate operations and actual balance results, and to the possibility that an atypical group of enterprises could be the base for norms, etc.

Nevertheless, when the question came up of a volume indicator, whose very structure would rule out interest in gross expansion of production costs, which is sooner or later covered by wholesale prices under the banner of "bringing prices into line with socially required costs," the choice fell on net output. The fact is that its dynamics largely reflect an actual contribution to solving the problems facing the industry in a five-year plan. In fact, the growth in production calculated by traditional volume indicators would generally reflect the demand dynamics of the main types of material resources and above all of the main one -- petroleum. Moreover, because of the increased output of light petroleum products, the expansion of the range of lubricants and rubber products, the output of new types of tires, and of more labor-intensive types of rubber and rubber-fabric footwear, net output will grow at a rapid pace. For example, the excess growth rate of net output over commodity production in the base year 1986 amounted to 6.3 points and in the following years it will fluctuate between 1.9 points in 1987 and 4.4 in 1990.

Naturally, the associations and enterprises that achieve more efficient operation assure themselves of the opportunity of setting up additional wage funds, which they may now use extensively to introduce new tariffs and rates, incentives for skilled labor, and reductions in the labor-intensiveness of output.

The advantage of net output as an indicator is shown by the amount of impact on the industry's operations of one percentage point of reduction in material costs. In this case the costs per ruble of commodity production are reduced by about 0.1 percent, profit increases by 5.8 percent, and net output and the labor productivity indicator based on it increase by 4.2 percent. But commodity production and the labor-productivity indicator based on it would not even change.

The difficulties in defining material costs, which have already been mentioned, remain a real factor. In this case how can the advantages of the indicator be used and the inevitable lag in reporting material costs be leveled off as much as possible? In the plan the amount of net output is defined by excluding from the amount of commodity production in actual prices the amounts of material costs and the amortized fund, costs accounted for in the estimate of production costs by components minus intra-plant turnover and not counting changes in leftovers from unfinished production, expenditures in future periods, impending expenses, and amounts written off on non-production accounts.

When drawing up the monthly report and for purposes of a working estimate of operations, net output is determined by computation by multiplying the cost of actual commodity production by the ratio of net output in the plan for that month. In associations and enterprises that employ the normative method of calculating material costs to more precisely determine the amount of net output, its estimated amount must be increased or decreased by the amount of savings or excess costs for material, determined by approximating deviations of the norms of expenditure for material and actual amortization deductions from the costs provided for in the estimate. Table 2 presents a typical example of this computation.

Deviations between actual results computed from accounting data and estimated results show up in accounting with a lag of one month. For example, the quarterly report will reflect data on net output based on accounting, except for the last reporting month, and the indicators of the reporting month are determined by the computation procedure shown below.

A target for growth in labor productivity computed on the base of the net-output indicator imposes strict accountability for violation of correlations that are established, not by the annual plan but by the five-year plan, between growth in labor productivity and growth in the average wage. In both the plan and accounting the correlation is computed by the cumulative total since the start of the five-year plan. The corresponding part of the material incentives fund for achieving the normative correlation may be utilized for the appropriate designation.

Table 2.

		1 (тыс. руб.)	
		По плану за месяц ²	Фактически за месяц ³
4	1. Товарная продукция в оптовых ценах предприятий, принятых в плане	1 500	1 570
5	2. Стоимость работ по освоению новой техники и повышенных затрат первого года освоения производства новых видов продукции	60	60
6	3. Всего товарная продукция, принятая для зачисления чистой продукции (стр. 1 + стр. 2)	1 560	1 630
7	4. Чистая продукция по плану	546	×
8	5. Соотношение чистой продукции и товарной по плану на отчетный месяц, % (стр. 4 : стр. 3 × 100)	35	35
9	6. Расчетная чистая продукция по отчету (стр. 3 × стр. 5 : 100)	×	570
10	7. Документированные отклонения от норм расхода материальных ресурсов, выявленные по оперативному учету за месяц	×	10
11	8. Отклонения от плана начисленной амортизации за месяц	×	5
12	9. Расчетный объем чистой продукции за месяц (стр. 6 - стр. 7 + стр. 8)	×	565

Key:

1. Thousand rubles
2. Per plan for the month
3. Actual for the month
4. Commodity production in enterprise wholesale prices adopted in the plan
5. Cost of operations to assimilate new equipment and increased costs of first year of developing the production of new types of goods
6. Total commodity production accepted for inclusion in net output (line 1 + line 2)
7. Net output per plan
8. Correlation of net output and commodity production per plan for the reporting month, %
(line 4 : line 3 × 100)
9. Estimated net output per report
(line 3 × line 5 : 100)
10. Documented deviations from norms for expenditures on materiel, revealed in the operational accounting for the month
11. Deviations from the plan for amortization payments for the month
12. Estimated amount of net output for the month
(line 6 - line 7 + line 8)

It is wholly understandable that the employment for estimating activities of an indicator defined by means of computation, and even more when it is used to assign funds for wages, and when there is a substantial deviation between its dynamics and the dynamics of the indicator on whose base it has been defined (commodity production), increases the importance of monitoring the reliability of accounting data.

It is thought that the employment of net output as an indicator raises the issue of preparing measures to improve wholesale prices for the industry's products. Of course, an evaluation of activities that takes account of contract delivery performance is a considerable guarantee of customer interests, but when there is a shortage of many types of an industry's products one must not underestimate the undesirable impact of not always justifiable variations in profitability when reaching economic solutions.

Proposals for the USSR Ministry of Petroleum Refining and the Petrochemical Industry's associations and enterprises to operate on the principles of full economic accountability and self-financing also provide other measures that solve in one way or another the task of all-around incentives for cutting down costs and that take account of the industry's operational particulars.

The ministry is accorded the right of independently establishing the volume of production for its own consumption, in order to cut down on expenditures of resources and eliminate excessive stocks. No matter how paradoxical this is at first glance, the previous limitations from above on internal consumption of our own products produced the opposite result -- a tendency to increase expenditures and exceed the limit. Now, when the entire economic mechanism is targeted on cost reduction, incentives, and growth of profit, the expansion of rights to utilize products for internal consumption should foster economic initiative in the rational and sparing use of raw materials and material.

Associations and enterprises producing consumer goods have been extended the right previously accorded to light industry to leave wholesale and retail prices unchanged on manufactured goods when they are produced by using more economical types of raw materials or material-saving technologies. This increases interest in reducing the material requirements of the product, while maintaining its quality and consumer properties.

The potential of the new operating conditions can be fully realized only by increasing attention in the industry to financial and economic operations. Changes for the better in this regard have been noticed in the ministry, which is evidence of the fact that it was one of the first to be entrusted with testing the new economic conditions.

First of all we must develop measures to get rid of deficit operations. They are incompatible with the principles of full economic accountability and self-financing. Unfortunately, many ministries have traditionally taken a complacent attitude toward deficit operations and planning for losses. However, one thing must be clear to everybody: losses reduce our ability to improve the material level of national life and develop the economy.

In the USSR Ministry of Petroleum Refining and the Petrochemical Industry losses from the sale of products have increased by 30 percent in the past five years and the number of enterprises with planned losses has doubled. At several plants the growing volume of losses over their operating life threatens to equal the value of their fixed capital.

Under the new conditions a deficit status substantially reduces an industry's own resources, while on the other hand, cutting it down makes it possible to target freed-up resources for material incentives, production development, and the social sphere, since a stable norm of correlation with the budget is fixed for the entire five-year plan.

The following fact is evidence of available reserves: the production cost of one of the largest tires at the Omsk Tire Plant is 74 rubles, 88 rubles at the Nizhekansk Plant, and 164 rubles at the Chinkent Tire Plant, which operates at a loss. Calculations of specialists indicate that reducing costs to the level of the leading enterprises in this case would earn the industry at least 70 million rubles per year. A comparative analysis of the enterprises' economic indicators should be targeted on this, since this is the main instrument for discovering and applying all that is foremost in the organization of production and labor.

Without a comprehensive approach on the part of planning, finance, and supply officers and the managers of production subdivisions it will be difficult to estimate and implement reserves for improving financial indicators such as cutting down non-production expenditures and above-plan stocks.

In the past, growth of non-productive expenditures many times surpassed growth of production. More than half of them were fines for violation of economic contracts. Cutting down on fines is naturally linked to rhythm in production and improvement in material and technical supply. It is well known that the plan cannot provide for non-productive expenditures. It is easy to imagine the opportunities that will be lost if everything remains the same in this sector. Non-productive expenditures are now consuming about 10 percent of profits annually.

Above-plan stocks of commodities now constitute about 12 percent of the norm for working capital. In five years the turnover rate has slowed by two days and its growth rate surpasses production growth by a factor of almost 4. Just in 1986 alone it increased at certain enterprises by another 25 percent and in some cases even by 30 percent of the norm.

All this has a serious impact on the increase of indebtedness in the economy and on current financial difficulties, which cannot help but complicate the practical implementation of the principles of self-financing. Right in the first months of the new-style of operation we must work out clear terms for improving the health of the financial situation of all associations and enterprises, and above all by eliminating the faults in financial and economic affairs mentioned above. Finance agencies must help in every way to increase

the impact of the cost-reducing economic mechanism on improving the indicators of operational efficiency and quality and continually offer practical assistance to the economic services of the ministry and the associations and enterprises in solving the problems of improving the organization of financial operations.

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KAZAKH SSR GOSPLAN CHAIRMAN REVIEWS REPUBLIC'S PROGRESS

Alms-Ata NARODNOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 1, Jan 87 pp 3-12

[Article by K. Abdullayev, deputy chairman of the Kazakh SSR Council of Ministers and chairman of the Kazakh SSR Gosplan: "On the Course of Economic Intensification, On the Course of Reorganization"]

[Text] The party's course toward comprehensive reorganization and acceleration of socio-economic development worked out at the April (1985) Plenum of the CPSU Central Committee and further developed in the resolutions of the 27th CPSU Congress, is gaining strength ever more assuredly and creating positive changes in the sectors of the national economy. The intensification of the economy on the basis of scientific-technical progress is becoming a real building force in solving the problems of communist construction.

These changes were confirmed at the 6th Session of the USSR Supreme Soviet, which ratified the Statute on the State Plan for the Country's Economic and Social Development for 1987.

The resolutions adopted at the Session received unanimous approval and support of the republic's workers.

CERTAIN RESULTS AND UNTAPPED RESERVES

In 1986 the national income, which reflects in a general way the scope of growth of social production, increased by 4.4 percent as compared with 1985 (according to preliminary evaluations), and reached 25.9 billion rubles. Over 4/5 of its growth was obtained due to increased labor productivity.

The actual growth rates for the development of basic sectors exceed those provided in the plan. The overall volume of industrial production has increased by 5.8 percent. The leading development has occurred in the sectors of the fuel-energy complex, in the chemical and petrochemical industry, in machine building and metal processing, as well as in the production of consumer goods.

In 1986, the manufacture of around 140 new types of industrial products and consumer goods was assimilated.

Gross agricultural production increased by 11.2 percent in 1986 as compared with 1985. There were 16.6 million tons of grain sold to the state, and the production and procurement of vegetables, fruits and berries, livestock and poultry, milk,

eggs and wool increased. The tasks for supplying agricultural production to the all-union fund were fulfilled.

There were 8.8 billion rubles of state capital investments assimilated and the volumes of reconstruction and technical retooling of existing production increased. The level of industrialization of construction increased and the growth in capacities of subsidiary construction-installation organizations continued. New facilities in the power industry, chemistry and petrochemistry, ferrous metallurgy, machine building and other sectors became operational.

The operation of all types of transport improved. Its technical level increased, which made it possible to satisfy more completely the demands of the national economy and the population for transport.

Measures for social development were implemented in accordance with the growth of material production. The real income of the workers and the payments and bonuses from public consumption funds increased. The volume of realization of paid consumer services also increased. The plans for operational introduction of children's pre-school institutions and general education schools were overfulfilled.

In reviewing the work of the ministries, departments and oblispolkoms, the enterprises and organizations in light of the tasks presented at the conference-seminar held at the Kazakhstan Communist Party Central Committee on 3 January, we must say that there are certain shortcomings in their activity. These are associated primarily with the slow implementation of reorganization and the weak involvement of the available reserves.

In 1986, there was no breakthrough achieved in improving the application of the production potential. Of the 37 vital production facilities introduced into operation in the 11th Five-Year Plan, 27 were not brought up to their plan indicators. Capacities are very poorly utilized at a number of enterprises in the chemical and petrochemical industry, in machine building, and in the building materials industry. As a result, the national economy has been shorted by hundreds of millions of rubles worth of production. Plans for deliveries to related industries and construction sites were not fulfilled, and material resources for solving social problems were undersupplied. Despite the acute shortage of building materials, the enterprises of the Kazakh SSR Ministry of the Construction Materials Industry are not utilizing their full capacities. If in 1986 the capacities of the ministry's brickmaking plants could be utilized to their full load, it would be possible to obtain an additional 450 million units of brick. This would be enough to build around 2 million square meters of housing.

In industry, around 15 percent of the enterprises do not fulfill their production plans, over 16 percent of them--their plans on labor productivity. The number of enterprises lagging behind is especially high in the Ministry of Nonferrous Metals, the Ministry of the Lumber Industry, the Ministry of the Construction Materials Industry, the Ministry of Light Industry, the Ministry of Local Industry, the republic's Gosagroprom [State Committee for Agricultural Production], as well as in the Dzhezkazgan, Karaganda, Mangyshlak, and Turgay Oblasts.

The shortcomings in capital construction have not yet been eliminated. The task for operational introduction of fixed capital has been only 85 percent fulfilled, with 548 million rubles of state capital investments still unasimilated.

A number of ministries, departments and oblispolkoms do not give enough attention to the solution of social questions. In 1986, at the fault of the Ministry of construction, the Ministry of Consumer Services, Ministry of Health, Ministry of Power and Electrification, Ministry of the Timber and Wood Processing Industry, and Ministry of Bakery Products, the plan for submitting housing for operation was not fulfilled. The task on housing-cooperative and individual construction was not fulfilled in Guryev, Dzhambul, Kokchetav, Semipalatinsk, and Uralsk Oblasts, as well as in the city of Alma-Ata. Yet this type of housing construction can and must play a major role in solving the housing problem.

Considering the fact that the problem of providing housing for the workers has become marginally acute, the republic's Gosplan, oblispolkoms, ministries and departments must seek and find means of accelerated solution to this problem in the next few years.

We must all strengthen discipline and organization everywhere and continually increase the responsibility of the cadres for the fulfillment of the assigned plans. The fulfillment of tasks of the 12th Five-Year Plan and the solution of problems on accelerating socio-economic development require that we bring deep-seated factors of growth of social production into action. This entails primarily the application of all reserves for intensification at every enterprise, shop, sector, and at every specific work station.

THE STATE PLAN: BASIC TENDENCIES AND PECULIARITIES

The indicators of the State Plan for the republic's economic and social development for 1987 correspond to the tasks of the five-year plan for 1986-1990. It takes into consideration the proposals of the republic's ministries and departments, the oblispolkoms and the Alma-Ata gorispolkom, the party, soviet and trade union agencies, as well as the labor collectives.

The rates and proportions defined [in this plan] and the outlined indicators orient the ministries and departments, enterprises and associations toward improving work on the introduction of scientific-technical progress, improving product quality and resource conservation, and stepping up the social policy.

In formulating its plan, the Kazakh SSR Council of Ministers considered the vital, key importance of 1987 in the fulfillment of the five-year plan as a whole. In connection with this, it has a number of distinguishing peculiarities. Primarily this is the widespread distribution of new methods of economic management, along with the transition to an integral and radical reform in administration and economic management encompassing all the levels and segments of social production.

All the sectors of industry, construction-installation organizations, transport, communications and consumer services enterprises within the Mintorg [Ministry of Trade] system and Kazpotrebsoyuz [Kazakh Consumer's Union] will now operate under

the new conditions. The reorganization of the economic management mechanism has begun at the Goskomizdat [State Committee for Publishing Houses, Printing Plants, and the Book Trade] and at the KaSSR Minavtodor [Ministry of Highways]. Work at the republic's Minlegprom [Ministry of Light Industry] and Mintorg, as well as at a number of associations and enterprises of union and union republic appurtenance will be organized on the principles of full cost accounting and self recovery.

The economic experiment has begun on two fronts.

The primary goal is to expand economic independence of the associations and enterprises, to create conditions for further increasing the growth rate of production and labor productivity, and to reduce the production cost of goods, jobs and services. In accordance with this, a serious change has been introduced into the system of plan indicators. The role of long-term economic standards has been increased, and their stability has been ensured. The labor, financial and material resources allocated to the collectives and the economic incentive funds which have been created are dependent on the end results of their activity.

Appropriate methodological directives and instructions have been ratified, and instruction of the management cadres for republic ministries and departments changed over to the new principles of economic management has been organized. The experience of enterprises working in the new manner testifies to the fact that only comprehensive fulfillment of measures on reorganization of the economic management mechanism will make it possible to achieve a high return.

The managers of ministries and departments, associations and enterprises must ensure rhythmic operation under the new conditions of economic management, making it dependent on the input of specific executors. They must also define measures for expanding collective forms of organization and wages. It is very important to make everyone aware of the basic principles of work under the new conditions. This will make it possible to increase the initiative of the workers and to interest them in improving the qualitative indicators of the enterprise's operation.

The role of economic agreements and the priority of the product consumer are also increased. Starting in 1987, the requirement for the primary indicator--100 percent fulfillment of contract responsibilities--has increased. The intensification of state discipline on deliveries should have a positive effect on plan balance, well-ordered material-technical provision, and stable and rhythmic work of related industries.

The role of the five-year plan has been increased, with the plan indicators for 1987 being set in complete correspondence with it. The system of determining growth rates has been changed, and the approach to planning stemming from the formulated base or the achieved level has been overcome. This allows successfully operating collectives to bring all their reserves into action in the process of their plan fulfillment.

We must admit that, despite the measures on strengthening plan discipline and ensuring task stability which have been taken in recent years, certain ministries

and departments introduced unsubstantiated corrections into the plans. The practice of their non-uniform distribution by year continued, as a result of which the major portion of growth in volume was planned for the last months and quarters. The plan distribution was non-uniform for the enterprises of agricultural machine building, Gosagroprom, and KaSSR Minenergo [Ministry of Power and Electrification]. The introduction of social-cultural facilities, as well as a number of production capacities, was planned analogously. In many ways, it was specifically this which served as the reason for reduction in the growth rate of industrial production as a whole throughout the republic by the end of 1986.

In connection with this, the KaSSR Gosplan, by order of the republic's Council of Ministers, approved the tasks set for ministries, departments, oblispolkoms and the Alma-Ata gorispolkom for volumes of industrial production with optimal distribution by quarters, not permitting their underestimation in the initial period of the year.

In accordance with the resolution of the CPSU Central Committee and the USSR Council of Ministers, measures were provided for improving management of the construction complex and the economic management mechanism in construction. There will be a gradual changeover to contract prices on the construction of facilities, coordinated between the customer and the contractor. All the participants in construction will bear a greater economic responsibility in achieving the end results of the work.

The outlined measures for accelerating socio-economic development and qualitative reorganization of all spheres of social life will have a positive effect on the long-term factors of growth, acceleration of scientific-technical progress, intensification, development of the investment process, improved product quality and resource conservation.

In generalizing what we have said, we must note that the main task in the plan for 1987 is to ensure the stable development of the republic's economy by means of the intensive growth of social production.

In 1987 the plan calls for a 4.4 percent increase in the national income, as compared with 4.1 percent for the 1986 plan. This creates the necessary material basis for increasing the real income of the population, for further increasing the wages of workers and personnel and the labor wage of the kolkhoz workers, for improving social security, and for implementing other measures for increasing the public well-being.

TO FULLY UTILIZE PRODUCTION-ECONOMIC CAPACITIES

In the second year of the five-year plan the republic's fixed production capital reached almost 101 billion rubles, which is 4.7 billion rubles greater than in 1986. Its renovation will be accelerated and, most importantly, the portion of the active part [of the fixed capital] will be increased. There is a notable increase in the replacement of physically worn and obsolescent fixed capital.

The 27th CPSU Congress subjected the republic to serious criticism for its low yield on capital in the national economy. This was taken into consideration in the compilation of the plan.

Provision is being made for increasing the level of application of the operating production potential, as well as for the timely assimilation of newly introduced facilities. In 1987 there are plans to achieve project capacities for the output of aluminum oxide, titanium, magnesium, excavators, ceramic flooring slabs, vegetable oil, flour, groats, etc.

There will be an increase in the utilization of capacities for primary processing of oil, and for the manufacture of tires, coke, refined copper, synthetic washing substances, transformers, cement, slate, ceramic slabs and other products of production-technical function and consumer goods.

However, this is not enough to improve the return on the developed potential. Here we need closer, more specific work with the enterprises, and by order of the republic's government the Gosplan, working in conjunction with the ministries and departments, is engaged in this matter. We must intensify the role and responsibility of the Soviets, since today they have extensive rights in solving questions of the comprehensive development of regional economies.

An important reserve in improving the application of the developed production potential, especially in machine building, is the widespread promulgation of the experience of Leningrad enterprises in the transition to two- and three-shift work regimens. However, we must admit that the Gosplan, the republic ministries and departments, and the oblispolkoms have not yet taken practical steps toward the transition to multi-shift operation. Thus, at the end of 1985, according to the data of a one-time 24-hour observation, at 57 machine building enterprises around 36 percent of the equipment worked a second shift, and only 4.8 percent worked a third. The shift application coefficient at machine building enterprises still remains at the 1973 level.

Things are most unsatisfactory with the application of current high productivity expensive equipment. Thus, only 1,500 machine tools with numerical control are used at the republic's machine building enterprises. This equipment is 2.5-3 times more productive than universal equipment, but this equipment pool is utilized by only 30 percent on the average. If we take measures to load it to full capacity in three shifts, using inter-plant cooperation regardless of the appurtenance of the enterprises and results of work station certification and write-offs of outdated metal processing equipment, there would be around 3,000 units of universal equipment liberated at the republic's enterprises and around 50-60,000 square meters of production area, which is equivalent to the development of an average-size machine building plant.

Therefore, from the very beginning of the plan year, each enterprise must develop and implement specific measures for significantly increasing the load on equipment, primarily on mechanized and automated lines and current machine tools. Working in conjunction with the local Soviets of People's Deputies, we must resolve the questions of change in the operational conditions of transport, public dining enterprises, and children's institutions.

The rates and proportions of economic development planned for 1987 are closely tied in with the tasks for increasing production effectiveness, and primarily with strengthening the role of intensive factors. The productivity of social

labor is increasing by 4.5 percent, including 4.5 percent in industry, 4.2 percent in agriculture, and 2.5 percent in construction. This factor is to account for 90 percent of the growth in industrial production and the entire growth in agricultural production. Here we must note that the growth in labor productivity in industry will exceed the rate achieved in the years of the 11th Five-Year Plan by an average of 2.2 times. However, we consider this to be a minimal task.

The reality and balance of the plan depends in decisive measure on strengthening the regimen of economy of materials, fuel, energy, and raw materials. Resource conservation today is becoming the primary source of material provision for production growth. The plan for 1987 provides for the more comprehensive utilization of raw materials, secondary resources, and production by-products. The ministries and departments, ispolkoms and the Alma-Ata gorispolkom have been given tasks on reducing the expenditure standards of ferrous metal rolled stock, lumber, cement, boiler-furnace fuel, energy, and other materials. The increase in demand for ferrous metal rolled stock will be fully provided due to its rational application. For fuel-energy resources and cement it will be covered by one-half due to this source, and for lumber materials--by 56 percent.

Strengthening economy and reducing unproductive expenditure of resources in the republic will make it possible to reduce material expenditures by one ruble of gross national product as compared with the plan for the current year, and to realize a relative savings in the sum of 230 million rubles.

The plan provides for a continued increase in the manufacture of highest quality category products, whose volume of production will reach 1,835.8 million rubles with the increased level envisioned by the five-year plan. This will comprise 13.5 percent of the overall volume of total production and 61.2 percent of the volume of production subject to certification. But today even this is not enough. In the course of fulfilling their plans, the ministries and departments must seek out additional capacities for increasing the output of products of the highest grade of quality.

We must stress the fact that the problem of quality is closely tied with the technical level of production. It is no secret that the reduced requirements for the level of production have bred in many a tolerant attitude toward the presence of outdated machinery and equipment and backward technology at many enterprises. Without significant renovation of both of these factors, we cannot expect to achieve any success today.

In accordance with the well-known resolution of the CPSU Central Committee and the USSR Council of Ministers and for the purpose of improving product quality at the enterprises and associations of a number of sectors of the national economy, the policy of state inspection of products is being introduced. The first stage of such inspection in the republic began effective 1 January 1987 at 38 associations and enterprises.

The introduction of state quality control will present the managers of ministries, associations and enterprises with many complex problems which, nevertheless, are being solved inefficiently. Many of the republic's leading enterprises

turned out to be unprepared for state inspection. Among these was the Kentau Excavator Plant, the Alma-Ata Heavy Machine Building Plant, the association of the Pavlodar Tractor Plant imeni V. I. Lenin, and certain others.

The plan provides for orientation of the sectors of the national economy toward the accelerated practical introduction of achievements in scientific-technical progress throughout the entire cycle of "science--technology--production".

The plan reflects the measures of the republic program "Intensifikatsiya-90" [Intensification-90]. An important role in the fulfillment of these measures is given to republic science, which must direct its efforts at solving important national economic problems in accordance with the tasks of all-union, republic and sectorial scientific-technical programs.

Particular attention will be given to the realization of the Food and Energy Programs, to the program of chemization of the national economy, to the development of low-waste, waste-free and resource-saving technological processes, and to other priority directions in science.

Expanded research is being performed in connection with the development of the Pre-Caspian oil and gas bearing complex and the Karatau-Dzhambul territorial production complex. Work is continuing on the development of high-yield varieties and hybrids of agricultural cultures which are resistant to unfavorable weather conditions, of new highly productive breeds of livestock, and of intensive technologies in farming and livestock raising.

The effectiveness of application of computer technology will increase. For the first time in the republic there are plans to develop intersectorial automated control systems for technological processes and production, as well as to introduce automated planning systems. The transition has been outlined to a qualitatively new step in the integration of automated systems and to the start of development of a republic data transmission system for ensuring inter-machine information exchange.

The expenditures for implementing the measures on new technology in the economy subordinate to the KaSSR Council of Ministers will comprise almost 350 million rubles, which will exceed the 1986 plan by 1.2 times. There will be 158 mechanized flow lines and automatic lines introduced and 200 enterprises, shops and sections will undergo integrated mechanization. A 40 percent growth in the productivity of social labor is anticipated due to the implementation of these measures on scientific-technical progress.

We do not consider these tasks and indicators to be fixed. In the course of plan realization, we must effectively review any problems which may arise and find means of solving them.

Increasing the effectiveness of the entire operation, and particularly return on capital, depends largely on developing the organizational structure of management. For this purpose, measures are envisioned for the continued concentration and specialization of production and for the changeover of industry, construction and other sectors to the two-step scheme of management consisting of "ministry--

enterprise". There are plans to consolidate 52 enterprises and create 39 scientific-production and production associations. Work will continue on eliminating the economic independence of a number of small enterprises. The realization of measures on improving economic management will make it possible to save tens of millions of rubles.

RATES AND PROPORTIONS

The plan indicators for 1987 have been formulated for large national economic complexes and groups of similar sectors. This makes it possible to ensure the balanced development of the national economy, to eliminate disproportions and to increase the effectiveness of control over plan fulfillment.

In the intensification of all spheres of the economy and in elevating the public well-being the leading role belongs to industry. The growth of production volumes here was initially defined in the amount of 5 percent. However, in order to accelerate the solution of social questions and to more quickly increase the mass of material resources, the task of ensuring an annual growth rate of no less than 6 percent in industrial production has been set. Based on the capacities of the oblasts, the republic's Council of Ministers has defined specific tasks for them.

The republic Gosplan, in conjunction with the ministries, departments and oblistpolkoms, will structure its work so as to fulfill the party requirement on ensuring early fulfillment of the plan for industrial production by no less than half a day for each month.

The plan for 1987 provides for continued improvement in the structure of industry due to the leading development of sectors ensuring scientific-technical progress. This refers primarily to the machine building complex, whose volume of production will increase by 7.6 percent. This is 1.5 times higher than for the republic's industry as a whole.

Machine tool building will undergo accelerated development. The production of metal-cutting machine tools, machines and equipment for the agroindustrial complex, transformers, instruments and means of automation will increase significantly. There are plans to assimilate the output of a number of more up-to-date machines and equipment of new generations. These will be lines for manufacturing parts made of metal powders and robotized complexes, automated lines for rolling sprockets, a gear rolling mill, modernized agricultural machinery, hydraulic excavators, and instruments for the automation of production processes. The series output of means of small-scale mechanization and packaging is also planned. This will significantly reduce the portion of manual labor in cargo handling operations.

The development of the fuel-energy complex is defined in accordance with the tasks of the Energy Program. The output of electrical power will comprise 87.3 billion kilowatt hours, which is more than the annual task of the five-year plan. Improved utilization of the equipment at existing operating power stations is also envisioned. The state power systems will continue to be developed, and rural population centers will be hooked up to them. This will make it possible to bring the level of centralized power supply in the republic to 99.8 percent.

However, the outlined growth in output of electrical power and in energetics as a whole throughout the republic does not provide for the needs of the national economy. In general this is associated with the delays in times of operational introduction of capacities at the power stations in the Ekibastuz complex and other regions of Kazakhstan.

The republic's Minenergo [Ministry of Power and Electrification] and the construction-installation subdivisions of the USSR Minenergo which are performing work on the territory of the Kazakh SSR must significantly intensify their rates of building power facilities, ensure the timely operation of capacities envisioned for 1987, and create the necessary construction stockpiles for planned submission of facilities in the subsequent years of the five-year plan. An important task of the KaSSR Minenergo is the significant improvement in the application of capacities at operating power stations and the implementation of timely and high quality repair of the basic technological equipment.

Growth in the extraction of coal, oil, gas and gas condensate is planned at the level of the tasks specified in the five-year plan. The progressive open pit method of coal mining will undergo further development due to the increased level of assimilation of currently operational capacities and the introduction of a start-up complex at the "Vostochnyy" open pit mine of the "Ekibastuzugol" Association, as well as at the "Shubarkolskiy" open pit mine of the "Karagandaugol" Association. The assimilation of the Turgay lignite coal basin will continue.

The discovery of oil, gas and condensate deposits in Tengiz and Karachaganak elevates these regions to the number of the most promising, having all-union significance, and presents the republic with principally new tasks.

A growth in volume of work performed on equipping these sites must be ensured starting from a sum of 156 million rubles in 1986 to a sum of 256.5 million rubles in 1987. Important facilities of production and social function must be introduced at the Tengiz deposit. The accelerated growth of the construction base deserves particular attention here, making it possible to sharply increase the volume of construction-installation work.

The volume of primary oil processing will increase. This is ensured by the improvement in load on capacities at the petroleum processing plants. The degree of application of raw material will increase due to its deeper processing.

In the leading sector of the republic's metallurgical complex--nonferrous metallurgy--the main task is the development of a reliable raw material base, the accelerated introduction of new technological processes, and the involvement of secondary and non-enrichable raw material resources into the economic turnover.

The volume of capital investments is to be increased by 12 percent. Most of these are to be directed toward the development of the raw material base and toward technical retooling of production. The volumes of ore extraction with the use of high productivity underground self-propelled machinery will increase and work will continue on the reconstruction of ore enriching factories and their equipment with machinery having greater unit capacity. The output of base bullion and copper with the application of progressive atogenic processes

will more than double at the Ust-Kamenogorsk Lead-Zinc and the Balkhash Mining-Metallurgical Combines.

The volume of production in nonferrous metallurgy will increase by 1.5 percent. The output of refined copper, lead, zinc, titanium and other metals will increase.

The output of ferrous metallurgy products will increase by 3.1 percent. Extensive measures are being outlined for improving production technologies, for improving the structure and assortment of metal, and for increasing the level of application of production capacities. The output of economical types of rolled stock will increase--cold-rolled sheet stock, thin-sheet steel, and tin plate.

In the chemical and petrochemical industry the product output will increase by 7.8 percent. The production of tires, mineral fertilizers, caustic soda, and sulfuric acid will increase. There are plans for the operational introduction of capacities for the production of ammophos at the Dzhambul Superphosphate Plant and for mining phosphorite ore at the North-West Quarry of the "Karatau" Production Association.

The more effective application of lumber raw material resources is envisioned for the lumber, cellulose-paper and wood processing industry. The production of commercial lumber, paper, cardboard, wood-particle board, furniture and other products will increase.

In the building materials industry, the production of cement, masonry materials, asbestos cement pipes, ceramic slabs, prefabricated reinforced concrete, and porous fillers will increase. The output of cement by the dry method of energy saving technology will comprise 1.8 million tons. The output of fusible ruberoid [roofing material] and other effective materials will be increased. The primary task of the KaSSR Ministry of the Construction Materials Industry will be the radical improvement of the work of the Novo-Karaganda Cement Plant and a number of brick plants, the provision of unconditional fulfillment of plans for brick production, and the expansion of output of progressive materials and structures.

The volumes of transport shipments have been determined with consideration for growth in the scope of production and the demands of the population. On the railroad lines there are plans for the operational introduction of 195 km of secondary routes and double-line track insets and 186 km of electrified track in order to increase the passage capacity of heavy freight traffic sections.

The operation of general use motor transport will improve. The distance of automobile roads with paved surface will reach 81,000 km. The task is being formulated to create a road network with paved surface connecting all the rayon and oblast centers and to continue the construction of access ways to the central farmsteads of sovkhoses and kolkhoses. The more complete utilization of the operational-technical capacities of transport means is envisioned, along with a reduction in empty runs and an expansion of package, container and other progressive forms of shipments. The local airline routes will increase their transport of passengers and mail to regions with difficult accessibility. The volumes of chemical treatment of agricultural seeding and of forests will increase.

Communications will undergo continued development. New radio relay and inter-city cable communication lines, television stations, automatic telephone stations, including stations in rural areas, will be submitted for operation. The range of television broadcasting to the public will be expanded.

FOR THE FOOD SUPPLY OF THE POPULATION

The tasks of the Food Program have been taken as the basis for the plan on development of the agroindustrial complex. Measures for increasing the intensification of production have been outlined. The planning of the APK [agroindustrial complex] as a unified whole was done with consideration for measures on improving management and the tasks for its continued development, while the approved indicators were presented in accordance with the requirements of the new economic management mechanism.

Around 3 billion rubles in centralized state capital investments are being directed toward further strengthening the material-technical base of APK sectors. In 1987, the republic's agroindustrial complex will be supplied with 28,500 tractors, 22,200 trucks, and many other types of agricultural machinery.

Gross agricultural production will increase by 3.9 percent, and will comprise 14.8 billion rubles. The set of measures directed toward improving farming culture and eliminating the existing shortcomings will make it possible to bring grain production up to 28.3 million tons, with state purchases comprising 16.4 million tons. The production of other basic agricultural crops is planned at the level of the tasks specified in the 12th Five-Year Plan. The scope of intensive technology of cultivating agricultural cultures, especially wheat, will be expanded.

Due to the increase in herd size and productivity of livestock and poultry, their production in slaughter weight will reach 1,265,000 tons, and the milk production will reach 5,030,000 tons. The delivery of products from farming and livestock raising to the all-union fund is planned at the level of the tasks specified in the five-year plan. The achievement of such indicators is impossible without serious work on safeguarding the health of livestock, improving selection and breeding, introducing progressive methods of raising and maintaining livestock, and improving the qualitative indicators in this important sector of agriculture.

An important reserve in improving the production of meat, milk and other products are the subsidiary farms of the enterprises and organizations, as well as the private farms of citizens.

Gosagroprom and the sovkhozes and kolkhozes must make timely preparations for widely utilizing the rights granted to them on the sale of up to 30 percent of the planned volume of procurements of potatoes, vegetables, melon crops, fruits and berries, and table grapes to consumer cooperative organizations and kolkhoz markets. This will make it possible to improve the food supply to the population and to strengthen the economy of the farms.

As before, the most important problems in the work of the agroindustrial complex are the safekeeping provisions of the crop and its delivery to the consumer

without reduction in quality or losses. This is our most primary task. Therefore work will be expanded everywhere on the construction and reconstruction of storage bases. This will help to prevent losses, preserve a large amount of vegetables and potatoes, and utilize the container-reduced handling method of their transport on a large scale.

The volume of production of the processing sectors of the republic's Gosagroprom will increase by 5.4 percent. The output of meat and fruit and vegetable canned goods will increase by 2.6 percent, of vegetable oil--by 22.2 percent, of butter--by 4.9 percent, of meat--by 2.8 percent, and of whole milk products--by 3.1 percent. 210 million rubles of capital investments are being directed towards the development of these sectors. Construction is to be completed on the bread and roll combine in Alma-Ata, the milk combine in Shakhtinsk, the butter making combine in the village of Fedorovka in Kustanay Oblast, and two sheep slaughterhouses. Work will continue on changing over liquor-wine-vodka plants to the production of soft drinks.

Gosagroprom and its on-site agencies must give constant attention to the questions of increasing the economic effectiveness of the agricultural complex. There will be radical improvements in economical operation in the kolkhozes and sovkhozes, as well as other enterprises and organizations. A firm rebuff must be given to mismanagement and waste. The favorable economic conditions of the new economic management mechanism must be used in full measure, and a high return must be ensured on the production-technical potential created on the farm.

In accordance with the Long-Term Program of Land Reclamation, the plan for 1987 provides for the operational introduction of 84,000 hectares of arable land, for the performance of work on improving existing irrigation systems, and for the qualitative improvement of land and increased water provision over an area of 160,000 hectares. Around 1,000 km of group water lines for agricultural use will be built and reconstructed.

DEVELOPING THE BUILDING PROGRAM

The plan for the second year of the five-year plan provides for measures on developing investment policy, for further improving the structure of capital investments, and for accelerating the renovation of fixed capital, and particularly its active portion. Over 2 billion rubles in capital investments will be used for technical retooling and reconstruction of operating enterprises, which is 15 percent over the plan for 1986, while the relative share [of these investments] in the overall volume of funds allocated for industrial construction will comprise 38.2 percent. Funds have been allocated in large volumes for these purposes to the Mintsvetmet [Ministry of Nonferrous Metallurgy], Minlegprom [Ministry of Light Industry], Minmestprom [Ministry of Local Industry], and a number of other ministries and departments in the republic.

Yes, capital investments for the qualitative renovation of the production potential are being directed in ever larger proportions. However, the effect of technical retooling and reconstruction may be achieved only with the condition of a serious improvement in the quality of project plans and the level of technical decisions provided in them. Many of the ministries and departments, however, have proven unready for a sharp increase in work on renovation of the existing production potential.

We must examine all technical projects in order to prevent the practical introduction of ineffective technologies which would not ensure the growth in production volumes and the increase in quality and productivity of labor which are needed at the present time.

In all sectors of the national economy, capital investments are primarily allocated in strict correspondence with the standards for duration of construction. The number of new construction starts has been reduced by almost 20 percent. The need for concentrating the resources and efforts of building organizations on vital and start-up sites has determined the concentration or interruption of construction on approximately 400 facilities. The implementation of these measures has made it possible to bring unfinished construction to the standard level.

To ensure the timely and quality operational introduction of start-up facilities and to intensify control over the course of their construction, a start-up program is being developed in the republic which includes measures on balancing financial, material-technical and labor resources with the capacities of the construction organizations.

The ministries and departments doing the construction, the oblispolkoms and the Alma-Ata gorispolkom must accelerate the realization of measures on improving control and methods of economic management in this sector. They must strive toward sharp improvement in the state of affairs through the transition of enterprises and organizations to full cost accounting and self financing on the basis of widespread introduction into production of the experience gained by the Mosobltselstroy Trust No 18, headed by N. I. Travkin. Along with this, there must, naturally, be a change in the structure of management of the republic's building complex at all levels.

In recent years, insufficient attention has been given to construction by the method of operations using an organization's own resources. We must overcome the relapses of such underestimation and effectively utilize on site this important reserve for building facilities of residential, cultural-domestic and production function.

EVERYTHING FOR MAN

The outlined rates of development of the sectors of material production have one ultimate goal--the more complete satisfaction of public demand.

The plan gives particular importance to increasing the production of consumer goods, developing the system of paid services, and strengthening the material base of the social infrastructure.

22.6 billion rubles, or about 3/4 of the national income, is to be directed toward the satisfaction of the growing demands of the population. This will be implemented through centralized measures on improving labor wages and increasing pension benefits and medical services to the public.

The year 1987 will mark the beginning of development in the system of wages paid in the production sectors of the national economy. The wage rates of workers will be increased by an average of 20-25 percent, and the salaries of engineering-technical workers and personnel--by 30-35 percent. Each worker's wages will be made directly dependent on the end result of his labor. We must stress that at first the transition to the new wage rates and salaries will be implemented without subsidies from the state budget. In other words, the funds for increasing the wages must be sought out by the labor collectives themselves.

A 3.3 percent growth in the average wage of workers and personnel is envisioned. The income of kolkhoz workers will increase noticeably. The republic's population will receive 8.1 billion rubles from the social consumption funds in the form of various payments and benefits.

Retail goods turnover in state and cooperative trade, not counting the sale of alcoholic beverages, will comprise 14,120 million rubles, showing a growth of 6.3 percent. To ensure the needs of the population in accordance with the Integrated Program for Development of Consumer Goods Production and the Sphere of Services, the output of goods will be brought up to 10.9 billion rubles, which is 9.7 percent more than in 1986. The output volume of cultural-domestic and household products will increase by 13.3 percent.

The manufacture of products new to our republic is planned: stereo-tape recorder units, universal kitchen appliances, electric mixers, manicure kits, spare parts for automobiles, and others.

Measures will be taken to discontinue the production of goods which do not meet current requirements.

In light industry, primary attention must be given to expanding the assortment and improving the quality of goods. Priority will be given to the development of principally new types of products with the application of leading technologies in current high productivity equipment. The manufacture of improved quality products and high-fashion goods sold at contract prices is planned in a volume of over 600 million rubles in 1987. This will comprise almost one-fourth of the overall volume of products in retail prices. The manufacture of woven fabrics, tricot and sewn goods, and footwear which is in high public demand will increase.

However, the sector's workers are deeply in debt to the consumers. The ministry management has not achieved the reorganization in operation of many of the leading enterprises. They must be given whatever help is needed.

Considering the fact that the demand of the republic's population for basic types of clothing and footwear is met only by an average of 50 percent through the republic's own production, the plan provides for a significant increase in the production capacities through reconstruction, technical retooling and new construction of a number of footwear, tricot and sewing enterprises.

A significant contribution to the manufacture of consumer goods of primary necessity and everyday demand must be made by local industry, whose volume of

production output will increase by 6.4 percent. The manufacture of plastic goods, household chemicals, arts and crafts products, and souvenirs manufactured at enterprises, as well as under home conditions will undergo leading development. The use of local raw materials and by-products will also increase.

The overall volume of realization of paid consumer services will comprise over 1.95 billion rubles and will increase by 10 percent. We must admit that in 1986 the solvent public demand was not fully met in the republic and there was a disruption in the balance between income and the goods and services offered. In 1987, in connection with the continued increase in wages and other income of the workers, the ministries, departments and oblispolkoms are faced with the task of seriously improving the cash flow by a radical reorganization of work on the output of consumer goods, by rendering paid services, and by better organizing trade.

To satisfy the solvent demand of the public, all the sectors, regardless of their specialization, must organize consumer services. It is necessary to strengthen control over the activity of the enterprises and organizations in spending funds for labor wages, and over the adherence to a regimen of economy.

In accordance with the basic directions for continued development of consumer services, the allocated capital investments in the sum of 29.3 million rubles are directed toward strengthening the material base of the rural rayon domestic combines and specialized enterprises in the cities. The construction of baths and bath-laundry combines will be expanded. Considering the reconstruction and technical retooling which is currently taking place, the capacity of the consumer services enterprises will increase by 18.3 million rubles worth of services per year.

Construction will be completed on factories for the repair and manufacture of furniture in Karaganda, and for dry cleaning and dyeing of clothes—in Taldykurgan, a consumer services combine in Ust-Kamenogorsk, 4 rural rayon combines, and 9 baths.

32 million rubles have been allocated for the development of the material-technical base in trade. The floor space of stores will increase by 80,000 m². The growth in public dining enterprises will comprise 49,000 places, and other facilities.

Many questions have accumulated in the resolution of the housing problem and in strengthening the material base of social-cultural institutions. In 1987, through all the sources of financing, residential houses with an overall area of over 7 million m² will be introduced into operation.

Additional allocations for housing and social construction due to 10 percent of the limits of construction-installation work allocated by the ministries and departments for industrial construction will make it possible to erect over 300,000 m² of housing in 1987. The number of houses erected by the enterprises and organizations using their own resources will increase significantly. The scope of cooperative and individual housing construction will also be expanded.

The realization of the basic positions of the general educational reform will be expressed in the numbers of students enrolled in day schools. These figures

will increase by 4.1 percent. New schools with total capacity of 98,000 pupils will be placed into operation, and will provide the necessary conditions for teaching 6-year old children. A certain contingent of 6-year olds will be taught at kindergartens.

The construction of children's preschool institutions will almost double. By the end of the current five-year plan we must generally meet the demand for them.

Higher and secondary special educational institutions must prepare over 121,000 specialists, while vocational-technical schools must train 193,000 qualified workers.

The ministries and departments, the oblispolkoms and the Alma-Ata gorispolkom must strive toward high quality and rhythmic construction and must take measures for unconditional fulfillment of the plan for introduction of facilities in the social complex in their full nomenclature. We must remember that the republic's workers are awaiting solutions to these questions.

IMPROVING PLAN-ECONOMIC WORK

At the conference-seminar held at the Kazakhstan Communist Party Central Committee on 3 January 1987, which was devoted to the reorganization in the style and methods of party work in the republic with consideration for the requirements of the CPSU Central Committee resolution on the Perm party obkom, it was noted that "we must change the evaluation criteria, ask for those indicators, those results of work which would radically, in a revolutionary manner, change the state of affairs on certain questions."

These requirements relate directly to improving plan work, whose role and importance under conditions of reorganization of the republic's economy takes on primary significance. The problems of radical improvement in planning as applied to new conditions of economic management come to the forefront here. The results of work in the 11th Five-Year Plan show that the problems of balance, intensity and effectiveness of plans for the economic and social development of the republic are still on the agenda.

For purposes of improving plan work, the KaSSR Gosplan has set the task of conducting a comprehensive investigation of the plan outlines of the KaSSR ministries and departments. The basis of this investigation is a systematic check (evaluation) of the parameters of economic and social development of the subordinate ministries (departments) and territories, including the growth rates of production, the economy of material resources, the reduction in product labor consumption, and other key economic indicators.

Another important task which was taken as being first priority is the elevation of planning scientific-technical progress to a new level. This has already been mentioned repeatedly, but the state of affairs in this sphere cannot be considered satisfactory. Recently the KaSSR Gosplan conducted a selective investigation of the course of fulfillment of the program "Intensifikatsiya-90" in three of its subordinate ministries (Minenergo, Minlegprom and Minmestprom) and two industrial enterprises of union subordination (AZTM [Alma-Ata Heavy Machine Building Plant], "Porshen" [Piston]). It showed that the indicated

ministries had already managed to introduce corrections into their tasks. This indicates the shallow development of the scientific-technical measures included in the program. Thus, the Minlegprom proposed excluding 21 measures, and reducing the volume indicators for 9 others. Now for this ministry the indicator for relative liberation of workers is only 1/2 of that which was envisioned, the savings from reduction of production cost have declined by almost 1.5 million rubles, while the economic effect has declined by 6.5 million rubles.

No particular changes are being felt in the investment program, either. As an investigation showed, at Minenergo only 8.3 percent of the overall volume of capital investments were directed toward reconstruction and technical retooling in the 12th Five-Year Plan, and at AZTM--less than 20 percent.

In connection with this, the KaSSR Gosplan sections and its subordinate organizations have been faced with the goal of seeing that the "Intensifikatsiya-90" program becomes an integral part of the ministry's (department's) plan and that the course of its implementation always be under firm control. Every scientific-technical decision must be reviewed and analyzed not only from technological and strictly production standpoints, but also from economic positions.

The KaSSR Gosplan considers the intensification of scientific-economical work and the search for a system of production effectiveness indicators reflecting the intensive methods of economic management to be an important direction in the reorganization of its operation.

It is becoming ever clearer that the current system of production effectiveness indicators does not fully correspond to the conditions of primarily intensive development. The key moment here is the correct measurement of the value of actual cost in accordance with the socially necessary expenditures of labor for the creation of a certain product with consideration for the regional peculiarities of production. For example, the Alma-Ata "Metallist" Plant in the 11th Five-Year Plan achieved a high growth rate in production--10 percent annually. However, the full labor expenditures computed by cost for obtaining this result increased at a rate of an average of 11.1 percent a year.

The words of V. I. Lenin are exceptionally current in this case: "Increasing labor productivity without reducing product cost is an absurdity, if only we take it as a general occurrence...*).

The conference-seminar also noted that those 19 percent of growth in the republic's industrial production which were achieved in the 11th Five-Year Plan did not justify the funds expended to achieve them. One of the reasons for this situation is the absence of reliable instruments for commensurating the expenditures and results of production under conditions of intensive development. Here, economic science must have its say.

Reorganization and development of planning cannot be enclosed in the framework of the indicated works. These are only outlines, the first steps in solving the problems which have arisen. However, it is in the legacy of dynamism of specifically this work that the republic Gosplan sees its primary task in the general channel of the changes which are taking place.

The speech presented by CPSU Central Committee Secretary General M. S. Gorbachev at the June (1986) Plenum of the CPSU Central Committee stressed that: "We have entered such a stage of post-congress activity when we must demonstrate our ability to reorganize and to build, to seek new forms and methods, and not for one minute to be flattered by what we have achieved. Today the main criteria for evaluation are the achievement of dynamic rates of economic development, the high indicators of effectiveness, and the serious positive changes in the social sphere."

This year our country will mark the 70th anniversary of the Great October Socialist Revolution. The workers of the republic, through their selfless labor, will ensure the fulfillment and overfulfillment of the plans and socialist responsibilities of this anniversary year, and will make a significant contribution to implementation of the decisions of the 27th CPSU Congress and the 16th Congress of the Kazakhstan Communist Party.

FOOTNOTES

- * V. I. Lenin. "Pisma 1903-1904. Polnoye Sobraniye Sochineniy" [Letters 1903-1904. Collected Works], Vol 46, p 29.

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RAPO ECONOMIC MANAGEMENT PROBLEMS EXAMINED

Moscow IZVESTIYA AKADEMII NAUK SSSR: SERIYA EKONOMICHESKAYA in Russian No 1, Jan-Feb 87 pp 66-74

[Article by B.G. Grishchenko: "Problems in Improving the Administration of the Economic Mechanism of RAPO"; first paragraph is source introduction.]

[Text] In this article the author discusses some vital questions concerned with the consistent use, under the new administrative system for the APK [Agroindustrial Complex], of an effective and anti-expenditure economic mechanism. The principal questions of reorienting the economic mechanism of agroindustrial formations towards raising efficiency and quality are examined based upon instructions handed down during the 27th CPSU Congress for strengthening the role played by economic managerial methods and converting over to true cost accounting procedures and to the principles of self-support. A great amount of attention is being given to the problems concerned with regulating cost accounting relationships and the methods and style for economic management at the RAPO [rayon agro-industrial association] level — the primary administrative element of the USSR Gosagroprom [state agroindustrial committee] system.

One of the principal trends in the economic strategy of the CPSU, as defined during the 27th Party Congress is that of accelerating the development of the agrarian sector and successfully implementing the Food Program on this basis. The conditions for solving this priority task include further intensification of agricultural production, the extensive use of modern scientific and engineering achievements, the reorganization of investment and structural policy within the APK system and increased use of the economic and social factors for reproduction. Quality changes in keeping with these conditions are possible only if the entire economic mechanism is reorganized. As emphasized during the April (1985) Plenum of the CPSU Central Committee, "regardless of from what side you view the economy, everything in the final analysis rests upon the need for realizing strong improvements in administration and in the entire economic mechanism" [2, page 5].

The essence of the measures outlined during the 27th CPSU Congress, directed towards raising production efficiency, including agricultural production, consists of activating the intensive factors for economic growth. For this purpose, as emphasized in the political report by the CPSU Central Committee,

"the socio-economic situation in the rural areas must be changed and conditions must be created for greater intensification and guaranteed production of goods. Here reliance is placed upon economic managerial methods and upon expanding independence and raising the responsibility of kolkhozes and sovkhozes for their operational results [1, page 30]. An important step forward in this direction was the March 1986 decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Further Improvements in the Economic Mechanism for Management in the Country's Agro-Industrial Complex."

The reorientation of the economic mechanism of the APK towards more complete utilization of the existing production potential and improving efficiency and quality and its overall anti-expenditure trend include two aspects of a basic nature. One of them is methodological -- the output of the scientific concept of the economic mechanism, which should activate to a maximum degree the labor activity of those engaged in production and also those working in other elements of the economic system, including administrative work. The other aspect is the practical realization of this concept. It is associated with basic changes in the style and methods of economic management and in the economic thought of personnel at all levels of the APK. As emphasized in the political report by the CPSU Central Committee to the party congress, the principal intention of the planned reorganization in the economic mechanism of the APK is that of opening up an expanse for the economic methods of management [1, page 31].

Recently, more attention has been given to the mentioned aspects and this is reflected in strong scientific validations. At the same time, the all-round development of the methodological principles for an anti-expenditure mechanism and the principles for its use has still not been achieved. As a result, the effectiveness of the increasing investments in APK development is being lowered in many instances.

The majority of publications dealing with the concept of the economic mechanism of the APK touch mainly upon its national economic level [3]. The remaining publications are limited by the APK's micro-level and contain recommendations for carrying out an experimental check on the principles for a corresponding reorganization at the rayon level [4]. Both of the above are important and yet the key to solving the problem lies in employing an all-round approach, the initial aspect of which is working out the economic mechanism at the micro-level for the APK, particularly in a RAPO -- a new structural subunit created in conformity with decisions handed down during the May (1982) Plenum of the CPSU Central Committee and which is an element of the Gosagroprom system, within the framework of which production and administrative decisions are directly formed and implemented.

Rayon agro-industrial associations were created primarily for the purpose of overcoming one of the chief obstacles standing in the path of efficient management -- inter-departmental barriers between enterprises of different branches and spheres of the APK. The standard statute for a RAPO calls for a number of administrative and economic measures aimed at regulating interbranch

relationships between kolkhozes and sovkhoses on the one hand and agricultural services enterprises, included in the structure of the mentioned associations, on the other.

However, experience has shown that no substantial changes took place in the interrelationships of APK partners at the rayon level. Owing to the fact that the system for planning, stimulating and evaluating the work of agricultural service enterprises remained practically the same as before, the service and processing enterprises on the whole remained subordinate to their own branch ministries and departments.

In other words, in the absence of an all-round inter-branch approach, "half-way" measures in implementing the economic policies of the CPSU, as pointed out during the 27th Party Congress, are inevitable. Such measures are being observed during analysis of the results of economic experiments carried out within the APK in connection with reorganization of the administrative style and methods and converting over completely to cost accounting procedures and to a system of self-support.

A summary of the operational results achieved under the new conditions, following the decision to create Gosagroprom, reveals that the RAPO partners do not always hold the "interests of the farms uppermost in their minds. Obsolete methods are still being employed in some areas. Have the signs really changed?" [5, 21 January]. An experiment conducted in 1981 in Glazunovskiy Rayon in Orel Oblast, in connection with converting over to cost accounting procedures and the collective contract, reveals precisely just such a result. In order to realize a maximum return from resources utilized, a substantial reorganization of the upper echelons and all administrative operations is needed, a reorganization which will change the system for planning and wages, raise the authority of a farm, find new points of support for the final results and, finally, to eliminate administrative relapses decisively [6, 19 February]. Efforts undertaken by the RAPO councils and their departments and services aimed at finding the means for streamlining the production structure and achieving efficient utilization of land and other resources often turn out to be fruitless owing to the fact that the "volitional principle prevails" during planning [6, 25 February].

Meanwhile, the new organizational forms for administration require new economic methods for implementing them, methods which will ensure that kolkhozes, sovkhoses and other structural elements of a RAPO will be able to operate on a complete cost accounting basis. But as noted during a speech delivered during the 27th CPSU Congress by chairman of USSR Gosagroprom V.S. Murakhovskiy "just as in the past, excessive administration and petty support by farm leaders and specialists are being tolerated in agricultural administration in some areas [5, 3 March]. The need for carrying out a "radical reform" as mentioned in the Political Report by the CPSU Central Committee to the 27th Party Congress, requires the placing in operation of all elements of the APK economic mechanism at all of its levels and particularly the economic methods of administration, methods which ensure an expansion in the economic independence of labor collectives and an increase in their economic responsibility for the production results and in the case of administrative workers -- for decisions handed down. In other words, further

reorganization of the RAPO economic mechanism, based upon Lenin's ideas and principles -- cost accounting, cooperation, tax in kind and so forth -- which create genuine conditions for manifesting initiative, enterprise and participation in the administration of labor collectives, is considered to be urgent in nature. The mentioned mechanism must be dynamic, it must respond rapidly to changing consumer requirements and external conditions and it must be capable of self-adjusting to searching for and implementing more effective decisions from the standpoint of the national economy.

In connection with the work performed by labor collectives on a cost accounting basis, the principal evaluative and capital-forming indicators for their activities must be determined by the enterprises themselves and not established by higher authorities. Experience indicates that such interaction among enterprises representing various APK spheres is possible at the rayon level only upon the condition that radical changes are carried out in the methods employed for the centralized administration of the country's APK. Comprehensive improvements in the overall APK economic mechanism provides the basis for successfully solving the problems concerned with achieving normal and consistent cost accounting relationships among RAPO partners.

With the adoption in November 1985 of the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Further Improvements in Administration of the Agro-Industrial Complex," a real opportunity appeared for substantially improving the RAPO economic mechanism and for making it anti-expenditure in nature. The decree stipulated that the RAPO's must "develop the economic initiative of labor collectives in every possible way based upon the use of economic levers in administration, raise considerably the material interest of all workers in the final results of their labor, introduce the collective contract and cost accounting into operations on an extensive scale in all production elements and improve financing and crediting" [5, 23 November]. At the same time, the RAPO functions call for unconditional fulfillment of the plans for procuring products (in the established assortment.)

Such an overall definition for this important function, without disclosing the mechanism proper used for the formation of plans, promotes the use of the same administrative-control methods for managing kolkhozes, sovkhoses and other RAPO enterprises and organizations. With regard to the economic methods employed, it is reasoned in some areas that they are for the future. Today, they maintain, they will manage using the old methods.¹

Hence the methods for planning the production activities of RAPO enterprises constitute one of the principal factors for determining the efficiency of the entire APK economic mechanism. The modern system for planning and also stimulating kolkhozes and sovkhoses towards fulfilling their planned tasks is fraught with a number of substantial shortcomings.

First of all, the existing planning methods, that is, tasks delivered to farms from higher authorities, preclude the possibility of converting over to efficient kolkhoz and sovkhos specialization in the production of those agricultural products, for which more favorable natural-climatic conditions exist at the particular farms. This is associated with the fact that when the

planning is carried out by a higher authority it is practically impossible to take into account the totality of natural-climatic conditions in each region of the country.

All of this serves to underscore the fact that the RAPO tasks and functions being carried out today contain contradictions which complicate the reorientation of its economic mechanism towards raising efficiency and quality. The initial source of these contradictions is the unchanging nature of the planning methods and insufficient active participation by the farms themselves in adopting their production planning decisions. The instructions handed down during the 27th CPSU Congress are oriented towards changing this condition by making more extensive use of economic planning methods. As emphasized in the Political Report by the CPSU Central Committee to the 27th Party Congress, "the independence of kolkhozes and sovkhozes must be expanded considerably and their interest in and responsibility for the final results must be raised. In essence, we have in mind here the creative use of Lenin's idea concerning a tax-in-kind, in conformity with the modern conditions" [1, page 30].

Under the new conditions, procurement plans are limited by deliveries only to the all-union fund. Importance is attached to ensuring that the value for these deliveries is recorded and also scientifically sound, especially with regard to grain procurements, and are known in advance. The remaining output is sold by the kolkhozes and sovkhozes, on the basis of a mutual agreement with state organizations, on the kolkhoz market, in other regions and so forth. The formation of a fund for centralized deliveries, not by allotments from above but rather on a cost accounting contractual base, is of basic importance in connection with improving the economic mechanism of the APK. Without this there can be no true cost accounting or genuine independence among enterprises, the unconditional observance of which was called for during the 27th Party Congress.

In this regard, further refinements are required in the functions and structure of the administrative system for RAPO's. The main feature of the existing structure for administering a rayon agro-industrial association is the presence in its structure of leaders of enterprises and organizations, the activities of which are based upon cost accounting principles. At the same time, the administrative staff of a RAPO is on budgetary financing, with administrative managerial methods constituting the basis for its activities. This particular feature of the administrative structure attaches a dual character to relationships within an association and this exerts a corresponding influence on the structure and efficiency of the economic mechanism and it minimizes the role played in controlling economic levers and stimuli. The relationships among RAPO enterprises and organizations form on the basis of cost accounting principles and among them and the administrative staff of an association they are mainly administrative in nature, that is, they are carried out in the form of direct instructions and advice. Thus a RAPO is not completely cost accounting in nature and this intensifies the mentioned contradictions in the activities of both enterprises and organizations and organs of state APK administration at the rayon level and in the mechanism for interrelationships within a RAPO.

In conformity with the particular RAPO structure and its place in the APK administrative system, three principal trends in the development of economic relationships can be singled out in the economic mechanism of an association. This includes the interrelationships of a RAPO with a higher element of APK administration (kray or oblast APO [agro-industrial association]), the relationships between a RAPO administrative staff and enterprises and organizations included in its structure and, finally, the relationships existing between these enterprises and organizations. The last two trends in relationships are developing within the RAPO's and the first encompasses its external relationships.

Comprehensive improvements throughout the entire system of economic relationships constitutes a common basis for reorienting the economic mechanism of an association towards efficiency and quality. In this reorganization, special importance is attached to regulating the external relationships of RAPO's and their reliance upon economic planning methods, upon genuine cost accounting principles and upon a system of equitable contracts with an effective system of stimuli and sanctions. This in turn assumes the use of a flexible price system, including limited and contractual prices and an effective tax policy, including rental payments as a payment form for natural resources. The mentioned instruments as well as other instruments of the commodity-monetary mechanism, particularly including credit, must ensure the conditions required for work by each enterprise and each economic organization of a RAPO on a completely self-supporting basis.

The all-round reorganization of the RAPO economic mechanism includes consistent implementation of the principle of economic responsibility. Here we have in mind primarily an increase in the responsibility of the primary element and this is achieved under conditions involving genuine self-support and eliminating the practice of writing off loan indebtedness. However, economic responsibility must be mutual and encompass the work of RAPO administrative organs and workers and also higher elements of the USSR Gosagroprom administrative system.

An economic contract is the most effective economic-legal instrument for achieving mutual responsibility for the final operational results of a RAPO. The economic responsibility of a RAPO administrative staff becomes real when the planned sale of products to the state is determined not according to the natural allotments of a task among kolkhozes and sovkhozes in a rayon, but rather based upon the contractual obligations concluded on an equal basis between the RAPO council, its chairman, a kolkhoz or sovkhoz. In other words, the delivery of products into a centralized fund must be carried out based upon commodity-money relationships, in which case a farm appears as an independent salesman and the RAPO administrative organ as a consumer who is responsible for the products obtained and for the resources expended, in behalf of a higher administrative organ, right up to the administrative staff of USSR Gosagroprom.

Naturally, a RAPO council must be entitled to a differentiated payment for products purchased, within the limits for the overall purchase price level.

With regard to the sale of products over and above deliveries into the all-union fund, here the price system must be more flexible and include more extensive use of contractual prices.

The operational experience of the Kuban Combine, which united practically the entire RAPO system in Timashevskiy Rayon in Krasnodar Kray, testifies to the fact that an expansion in the sphere of direct market relationships is not in conflict with a planned beginning, provided these relationships are organized in a planned manner. Only the volume of deliveries into the all-union fund and budgetary payments are defined for the combine. It is authorized to enter into an agreement concerning the price level. The combine operates on the basis of complete cost accounting. The income from each subunit and each enterprise is dependent upon how it operates and how it is able to trade (in the broad sense, that is, how it is able to take advantage of the mechanism of commodity-monetary relationships).

A reduction in the present and formal role played by contracts as a type of addition to a planned task from above poses the danger of a continuation of the practice of imposing upon enterprises those trends in economic practice which do not conform to the tasks for streamlining the production structure, that is, the same type of petty support. Here half-measures do not ensure opportunities for cost accounting operations or for material interest, with economic responsibility from above to below. As emphasized in the Political Report by the CPSU Central Committee to the 27th Party Congress, life "requires serious changes in the style and methods for managing the agro-industrial complex. Incompetent interference in production operations in the rural areas must be renounced" [1, page 32].

An efficient system of contractual relationships assumes the use of a flexible price mechanism within the RAPO framework. The 27th Party Congress attached special importance to employing the principle of flexible price formation. In the absence of a flexible price system, it is difficult to establish effective cost accounting relationships or operations on a self-supporting basis, stimulate growth in quality indicators and so forth. The RAPO's must be authorized to make extensive use of this principle and, based upon it, to stimulate increased specialization, in increase in output quality, a reduction in the delivery schedules and so forth. A portion of the income saved through flexible use of the price mechanism must be directed into the centralized RAPO funds. Generally speaking, the administrative staff of an association must "earn" its wages and accumulate centralized funds mainly by means of cost accounting operations and not rely solely upon deductions from the income of RAPO participants.

Under the conditions imposed by cost accounting operations, the question concerned with reimbursement for the expenditures of farms operating under unequal production conditions must be solved in a different manner. "The existing practice of subsidies from the state budget for low profitability and unprofitable farms" commented member of the CPSU Central Committee and chairman of the country's well known Kolkhoz imeni Kirov in Belozerskiy Rayon in Kherson Oblast D. K. Motornyy, during the 27th Party Congress, "is very convenient for them and encourages parasitism" [5, 5 March]. Balanced price formation, established taking into account the rent factor, assumes direct

reimbursement for socially needed expenditures, supplemented by a system of rent payments, in firm fixed amounts, for farms operating under less favorable conditions.

Genuine cost accounting operations and the equality of kolkhozes and sovkhoses with other RAPO partners in the economic conditions for reproduction assume an equivalence in inter-branch exchange. The prices for agricultural products and the industrial means of production employed in them must be formed based upon the principle of optimum profitability and undergo correction upon the conclusion of contracts, depending upon the quality of the agricultural products, the machines and fertilizers made available and so forth. In other words, all of the factors and stipulations which encourage price discrepancies and the unjustified income of service production operations, especially for the repair of equipment and the use of chemical processes in agriculture must be eliminated. Even in these spheres, cost accounting operations must become an effective economic control factor and ensure both interest and responsibility on the part of the parties involved. All of this is possible under conditions involving a general equivalence of the price proportions for exchange.

The regulation of price formation in the APK, in its primary rayon level --the RAPO's -- touches upon the price system, including retail prices. For example, the amounts of the subsidies for food branches of the APK reached their permissible limits and adversely affected the overall balance for reproduction proportions in the APK and the national economy as a whole. Taking into account the experience of other CEMA member states and based upon the principle of "relative stability" in retail prices [8, page 13], it is obvious that the time is at hand, as mentioned during the 27th Party Congress by member of the CPSU Central Committee V.I. Kalashnikov, for "regulating" the ratios for all types of prices when compensating for the income of low-salary categories of workers.

The economic mechanism, oriented towards self-supporting operations, mutual interest and economic responsibility by all RAPO partners, including the administrative system for RAPO, is based upon appropriate principles for the formation and use of the centralized funds of an association. It is obvious that such principles are consistently cost accounting in nature and that they are coordinated with the resource potential of each farm and each RAPO organization. The deductions for an association's fund cannot be established based only upon the results obtained, but rather they must also be determined according to the amount and quality of the land and other production resources. In this regard, greater importance is being attached to an economic evaluation of land for the purpose of objectively evaluating the results of production operations for determining the rental payment amounts and also for employing a differentiated approach for concluding agreements on the amount of products to be sold to the state.

An anti-expenditure economic mechanism assumes the availability of an adequate system of criteria and indicators for evaluating the results of economic activities and also material incentives. At the present time, everyone is aware of the unacceptability of the "gross" indicator for this purpose. The question remains as to what can be used in its stead. Many believe that the

basis for evaluating the work of collectives and their leaders and specialists must be the amount of output in kind, with the assortment and quality being taken into account. But this is another aspect of the "gross" consideration in physical terms.

Certainly, the importance of use value must necessarily be taken into account. However, the economic mechanism, which is oriented towards efficiency and quality, raises an objective need for taking into account the expenditures per unit of output, since without this the principle of self-support cannot be realized and true cost accounting operations would be impossible. The 27th Party Congress noted that henceforth each structural element of the APK, each RAPO and each labor collective "must develop production, increase profits and income and stimulate work using mainly its own internal resources" [1, page 32]. Based upon this instruction, labor must be evaluated based upon the criteria for efficiency and according to the amount of net income. A reliable indicator for such an evaluation, in addition to the carrying out of contractual obligations, is profitability, in which growth in production, realization in kind, the quality of output and savings in expenditures are all summarized.

Work carried out according to the principle of self-support by RAPO participants assumes use of the practice of bank crediting, in which borrowed funds are returned fully to the state and with the state receiving a payment for the credit at the level for the normative coefficients for effectiveness computed for enterprises and organizations of this association. A conversion must be carried out over to the practice of presenting credit upon the condition that the enterprise involved is able to make repayment.

* * *

The mentioned trends for the formation of an anti-expenditure economic mechanism for RAPO's must be developed simultaneously and throughout the entire APK system. Experience has shown that individual experiments cannot furnish the desired results. As noted during an 11 July 1985 conference in the CPSU Central Committee on the question of accelerating scientific-technical progress, no perceptible results were realized from experiments carried out owing to the fact that there was no all-round reorganization from top to bottom, including "upper echelons." The creation of USSR Gosagroprom [State Agroindustrial Committee] -- an element of the reorganization -- which, in the words of the chairman of the Kolkhoz imeni Frunze in Belgorod Oblast Ya.V. Gorin, who spoke during the 27th Party Congress, "is a development which we have longed dreamed about. But by itself, this structure is still incapable of solving all problems. Unfortunately, the depraved style developed over a period of decades concerning any aspect of the instruction or what type of support can or cannot be provided is disappearing only slowly from the scene" [5, 5 March]. Thus a requirement exists for a clear delineation of administrative functions and the introduction of direct responsibility for orders which cause harm to production, lower the profits of kolkhozes and sovkhoses or result in losses. This constitutes an important condition for successfully solving the tasks concerned with accelerating socio-economic development, as defined during the 27th Party Congress, and converting administration over to the level of the new requirements.

This underscores the importance of developing an effective system for legal regulation and for reinforcing the economic mechanism with legal norms. In connection with the organizational-administrative reorganization, an increase is taking place in the role played by the agrarian-legal science, the range of tasks confronting it is expanding and the level of requirements with regard to the quality of scientific studies and the validity of scientific recommendations in this area is increasing.

In recent years, Soviet scientist-lawyer agrarian specialists have achieved well known positive results in the theoretical development of agrarian-legal problems. This applies first of all to the systematization and codification of land, water, mining, forestry, kolkhoz and agricultural legislation.

In addition to the development of the traditional agrarian-legal sciences, the science of Soviet agricultural (agrarian) law has also developed in an active manner in recent years. This latter science is called upon to carry out thorough studies of vital legal problems concerned with agricultural development in the APK as a whole, especially in connection with the conversion of agriculture over to an industrial basis and raising the proportion of inter-farm and agro-industrial enterprises and associations in the state productive sector.

At the same time, the study of the legal problems concerned with the development and administration of the agro-industrial complex and especially the working out of problems associated with improving the legal regulation of economic relationships between agriculture and other branches of the APK has still not been disseminated adequately and it is being carried out in the absence of proper coordination with representatives of the economic and other social sciences. At the present time, even agricultural legislation alone is very voluminous and this inhibits a proper study of it and its use in actual practice. It is sufficient to state that in the four volumes of the Existing Legislation Collection, agricultural legislation encompasses 1,100 documents of an all-union nature. In addition, there is a special volume entitled "Legislation on Procurements of Agricultural Products" — 503 documents. Many documents contained in other sections of the collection (for example, legislation for general national economic problems, land legislation and so forth) are concerned with agricultural matters.

Moreover, relationships within the RAPO's are still quite often regulated by the normative documents of ministries and departments, which are the partners of agricultural organs (for example, the USSR Ministry of Procurements) or which are called upon to ensure that certain requirements concerned with providing services for kolkhozes and sovkhoses are satisfied on the basis of contracts arrived at and this cannot be viewed as correct. In actual practice, this often leads to an infringement of the legal property rights and interests of the agricultural enterprises.

It is obvious that the normal functioning of the economic mechanism of RAPO's requires the adoption of new normative documents, especially in the area of contractual relationships and preventing interference in the economic activities of kolkhozes, sovkhoses and other structural elements of RAPO's by

higher organizations. The principle of economic independence of labor collectives must be protected by effective legal norms. All of this must be reflected in the Statute for a Rayon Agro-industrial Association.

In developing the economic mechanism for RAPO's and the entire agro-industrial complex, considerable importance is attached to the extensive use of the experience of fraternal countries in the use of Lenin's ideas concerning cost accounting, cooperation, the democratic principles for administering production and his emphasis upon economic levers and incentives.

The experience of socialist countries in reducing the number of mandatory planned indicators made available to cooperatives and goskhozes [state farms], based upon economic managerial methods, is opening up an expanse for true economic independence for labor collectives. In the CSSR, the tasks for farms are limited by the sale of two products: grain and meat. In the VNR [Hungarian People's Republic], the sales plans are established by the enterprises themselves and formed on a contractual basis, with equal and mutual responsibility by the partners, including the planning organs; the economic contractual relationships are reinforced by a flexible price system, including limiting and free prices. The price mechanism is embodying more consistently a mutually associated regulation for the alignment of all types of prices for APK products, including retail prices for food products.

The effective use of a contractual system of mutual relationships is promoted by more consistent observance within the APK of CEMA member countries of the cooperative principle when creating agro-industrial formations, organizing their activities and selecting the organs for administering these formations. This serves to ensure true participation by workers in administering and solving an entire complex of production and social problems.

In utilizing the experience of fraternal countries, proper direction must be given to the economic mechanism and other agro-industrial formations in the interest of ensuring the effective use of nature, a factor of extreme importance in view of the frequently poor status of soil fertility and losses in irrigation water. The experience of CEMA member states has proven that high results can be achieved through the use of economic and legal measures for protecting land. This includes payment for the use of land and irrigation water, sold by means of a land tax and high rates for reimbursement for losses caused by the withdrawal of land for non-agricultural purposes, using the cost accounting income of the respective enterprises and organizations. By utilizing the mentioned instruments, the RAPO's could exert an active influence with regard to protecting and improving the natural resources of the APK.

Finally, extensive use should be made of the operational experience accumulated by structural elements of the APK of CEMA member states in the use of cost accounting principles for evaluating the results of labor management and stimulation. The indicators for efficiency, profit and profitable work serve as the principal indicators for such an evaluation.

Thus the mutually associated use of the totality of economic and legal instruments, taking into account the experience of socialist countries in the

all-round reorganization of the APK economic mechanism for efficiency and quality, serves to guarantee the successful implementation of the instructions handed down during the 27th CPSU Congress, which maintained that "genuine cost accounting and the dependence of income upon the final results must become the norm for all elements of the agro-industrial complex and particularly the kolkhozes and sovkhoses" [1, page 32].

This requirement was emphasized once again during the June (1986) Plenum of the CPSU Central Committee. As noted during the Plenum by M.S. Gorbachev, only by concentrating efforts and all available resources "on the decisive trends and by skilfully using the advantages embodied in the new economic mechanism and administrative structure, will we be able to function effectively, rapidly develop production and solve successfully the tasks set forth in the USSR Food Program" [5, 17 June]. As stated during the Plenum, here it is "forbidden to travel only by means of well-trodden paths." The use of the anti-expenditure mechanism requires direction for all of its elements in behalf of efficiency, quality indicators and economically profitable work. The opportunities for reorienting the RAPO's towards these indicators, defined in the new statute adopted in March 1986, are truly tremendous, especially with regard to solving those tasks directed towards developing the economic initiative of labor collectives to the maximum possible degree based upon the use of economic levers in administration.

FOOTNOTES

1. For example, telephone messages pour in to the kolkhozes and sovkhoses from the Novoanninskiy RAPO (Volgograd Oblast): on an urgent basis, have the chief agronomist (zootechnician, engineer and others) send a report. It is a rare day when the specialists are not called upon. Or an order is issued over the phone: turn on the sprinkling units. It is as though out there, out on the fields, they are unaware as to what must be done and when. And yet the Mikhaylovskoye RAPO sends the following telephone message: "Your farm is being assigned a task, for a month's time, calling for the mating of 150 sows" and so forth in the same spirit [5, 18 May].

2. It is recalled that the amount of the tax-in-kind introduced into operations in the early 1920's amounted to 240 million poods of grain.

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STAVROPOL KRAY ECONOMIC EXPERIMENT EVALUATED

Moscow EKONOMICHESKAYA GAZETA in Russian No 12, Mar 87 p 10

[Article by V. Dubinin, deputy chairman of the Kirov Oblast RAPO [Rayon Agro-Industrial Association] Council for Economics: "Self-Supporting Production [samookupayemost]: "How Do We Achieve It?"; first paragraph is source introduction]

[Text] All of the enterprises of Stavropol Kray have been operating under experimental conditions this year. Their goal was the transition to self-supporting production and self-financing. How is the experiment proceeding? What are its initial results? Our reporter asked V. Dubinin, Deputy Chairman of the Kirov Oblast RAPO Council for Economics, to discuss this.

As far as kolkhozes are concerned, they have always been cost accounting enterprises and they must cover their expenditures using profits from product sales. Unfortunately, many of them, especially after the introduction of guaranteed wages, lived on government assets and not according to their income. Economically-weak kolkhozes were extended credit, including for making wage payments, and the repayment of the loans was postponed and later written off. This decreased the responsibility of collectives for the situation and did not provide incentives for them to increase production effectiveness. Now all kolkhozes and sovkhoses must work according to the principle of self-supporting production and self-financing.

With the transition to new management conditions the directors and specialists of kolkhozes, sovkhoses and the rayon agro-industrial association have many responsibilities and concerns. Whereas previously their attention was concentrated mainly on carrying out plan quotas related to the sale of products to the state, now they must seriously begin analysis in order to find ways to increase income in a particular branch. Once the task of self-supporting production was established it was necessary to accommodate ourselves to this. The experiment not only facilitated the achievement of positive results but also revealed problems in the management mechanism. I would like to share my thoughts about the course of the experiment.

During the past year gross production volume equalled 125 million rubles in all 12 rayon enterprises, which is 24 percent greater than the average annual level of the past five-year plan and 12 percent greater than the plan task.

Net profits reached 31 million rubles, which is greater by a factor of 1.7 than the average annual level for the 11th Five-Year Plan. Here is another index of no little importance under conditions of cost accounting and self-supporting production--the level of profitability increased to 38 percent as compared to 31 percent in 1985.

In the rayon as a whole economic-financial activities meet the conditions of the experiment being conducted. However, economic indicators could have been significantly higher if all directors of enterprises and subdivisions had thoroughly understood the essence of the experiment and if they had begun restructuring and working in the new manner as was done, for example, in Kolkhoz imeni 20 Syezd KPSS. After all, until last year this kolkhoz was always in difficult economic circumstances, it tolerated many non-production expenditures and it acquired a great deal of reserve technology.

In practical terms the kolkhoz had no assets in its current account. Now the situation has changed sharply. As of 1 January 1987 the enterprise had over 5 million rubles of free assets. Cost accounting and self-financing forced kolkhoz directors to work according to the principle of making precise calculations before making a decision.

In those enterprises in which economic work is poorly organized and in which the cadres of economists and bookkeepers are poor the situation has hardly changed. In Novopavlovskiy Sovkhoz, where a great deal of building is going on without the support of the enterprise's own assets, the situation has even worsened. As a result, at the end of the year the sovkhoz needed over 1 million rubles in order to cover expenses. This is what happens when directors, senior specialists and their primary helpers--economists and bookkeepers--do not seriously deal with substantiating the planned economic measures and do not calculate ahead of time when and to what degree expenditures will be repaid.

The transition to self-supporting production and self-financing has forced us to have a more serious attitude toward improving cost accounting in primary production subdivisions. Whereas previously the attitude was somewhat "elective" now this has changed greatly. Workers in enterprises have understood that without cost accounting there can be no talk about self-supporting production.

During the year in which the experiment has been in effect cost accounting has become more effective and efficient. Regular workers have themselves begun to express interest in producing larger harvests and milk yields and have begun to take into account all expenditures that depend on them. A decisive role in this belongs to collective contracts, in which everything depends on the end result that is achieved. Many subdivisions of farming and livestock raising as well as the majority of subsidiary and auxiliary enterprises work according to the principles of collective contracts in the rayon.

The experiment is being carried out not only to test the new management method in kolkhozes and sovkhozes but also to examine the process in all its various interrelations--with management organs and with partners, without the close ties of which the work of labor collectives would be impossible.

Unfortunately, at this level we do not yet have complete mutual understanding and regulation.

We have spoken more than once about the conflicts between enterprises and the bank. My personal opinion is that Gosbank is operating according to old established order. There is no flexibility, which is especially needed during the transition of the enterprise to cost accounting and self-supporting production.

I feel that the kray agroprom has not fully restructured its work in the spirit of the experiment's requirements. Fine talk about restructuring economic factors of acceleration are superimposed upon strong-willed management. The krayagroprom [kray agro-industrial committee] issues commands not only to the RAPO, but as before to every farm and enterprise as well, which is not only not necessary but sometimes harmful. Can it be that the lack of trust of specialists of agro-industrial associations is so deeply rooted that our opinion is ignored even regarding questions which we not only can but simply are obliged to deal with independently? Sowing areas and livestock herds are confirmed "under pressure" although this faulty practice was once again condemned at a meeting of the CPSU Central Committee on the question of labor productivity in agriculture.

All of the work of the economic mechanism under the conditions of the experiment must be focused on producing the largest possible harvests, milk yields, weight gains in animals, and profits. But production of those products which will knowingly increase expenditures is being planned for us. Kolkhoz imeni 20 Syezd KPSS planted 200 hectares of sorghum upon receiving an order "from above." In other enterprises 500 hectares were put into castor plants, which provide profits in some soil-climatic conditions, but which simply does not mature here.

I would like to say a few words about sheep raising in our rayon. It brings losses of 1.5-2 million rubles per year. As we know, sheep are grazing animals. But the rayon has no pastures. Tilled lands reach 98 percent of total area. For this reason we are forced to maintain the entire herd in complexes and to ship feed there. We proposed to decrease the herd, to change its structure by increasing the number of mothers to 70 percent and to make the herd a breeding herd. In this case meat and milk production will increase. All of this was confirmed in accounts. But our proposals regarding how to make the branch profitable were ignored.

The old habit of issuing commands without listening to the wise voice "from below" can be illustrated by the following example. Centralized funds are developed in each RAPO.

But what happens to these funds? In our rayons the sum total transfer should comprise about 5 million rubles. The total is not a small one. But we have calculated that even if we transfer half, this would be impossible for some enterprises, and for this reason we are in no hurry to transfer funds. The krayagroprom demands the immediate creation of the fund and accuses the RAPO of sluggishness. Moreover, it has already removed considerable sums for

placement into the reserve fund from the Komsomolets State Breeding Plant and Novopavlovskiy Sovkhoz without notifying them or having them agree, thereby "running them aground."

In the fever and the shake up involving similar "provoking" problems one involuntarily begins to wonder about the reasons for them. It would seem that we have all the conditions for active work to accelerate--the conditions of the experiment are precise and clear. We must function with confidence according to what is stipulated, without looking from side to side. But I feel that the indicated measures "trip" on a single barrier--a habit that has developed over many years under the banner of "we must" and "at any price."

We cannot in full measure accept a situation in which an economic decision must be based on a single factor--economic expediency, leading to a predetermined and ever-growing end result.

Finally, there is one more thing I cannot keep silent about. In our kray and beyond its borders I am familiar with many strong enterprises, the directors of which express dissatisfaction. You will ask why. It is because the existing system of deductions is battering the pockets of leading enterprises. If productivity equals over 40 percent enterprises must pay another 6 percent of their gross income into the general union fund for kolkhoz social security and social insurance. All of this depends on the cost of production. This is the reason for the need to change the order that exists now. The centralized fund of social security and insurance is necessary. This is indisputable. But in my opinion a uniform percentage rate should be established for deductions regardless of the level of profitability.

The results of last year indicate that the experiment has proven its vitality--all kolkhozes, sovkhoses and enterprises belonging to the RAPO were profitable. In comparison with 1985, indebtedness for short-term loans decreased by over 3 million rubles whereas the availability of enterprises' own assets increased by 5 million rubles.

Only two enterprises fell into financial difficulties--Novopavlovskiy Sovkhoz and Rassvet Interenterprise Association for Pork Production. They were given financial aid from RAPO centralized funds. In addition, measures have been elaborated for improving the economy of Novopavlovskiy Sovkhoz.

In conclusion I must nevertheless say that the following factors facilitated the successful transition to self-supporting production and self-financing to a considerable degree: the repayment of long-term and short-term loans by enterprises was postponed; and unprofitable enterprises were given a one-time subsidy in the sum of 3.5 million rubles from the state budget. But this cannot be expected again. Further growth in the profitability of the enterprise is our key task.

8228

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VASKhNIL MEETINGS ASSESS SCIENTIFIC AID TO AGRICULTURE

RSFSR Section

Moscow SELSKAYA ZHIZN in Russian 15 Mar 87 p 2

[Article by Yu. Volokhov: "A Scientific Foundation for Acceleration; Annual Scholarly Meeting of VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin]"]

[Text] How is restructuring proceeding in scientific-research institutes and in experimental stations? This was the main question on the agenda for the general meeting of the All-Russian Division of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin which took place in Moscow.

It was noted at the meeting that in 1986 scientific institutions within the division conducted research on many subjects that were combined in the scientific-technical program. The annual economic effectiveness of utilizing complete elaborations has surpassed 200 million rubles. Russian breeders have developed several dozen varieties and hybrids of various crops and have submitted them for state testing. In livestock raising work has continued to develop and improve breeds of dairy and beef cattle and a new meat-wool breed of sheep has been developed. Testing enterprises have overfulfilled plans for the sale of the highest reproduction of seed for grain crops, perennial grasses, sunflowers and rape as well as potato seed material. Average milk yield per cow has increased to 244 kilograms on OPKh [Experimental Enterprise] farms.

In analyzing the work of scientific institutions, I. S. Shatilov, the chairman of the division presidium and VASKhNIL academician, noted that changes for the better are being carried out too slowly--the burden of the past is making itself known. The main index--the level and results of research--still do not meet the needs of the times--of 120 inventions only 17 have been patented in foreign countries. The inadequate work quality of many NII's [Scientific Research Institutes] is also demonstrated by the following example. Zonal institutes were to carry out an evaluation of the effect of various factors on the size of the harvest produced in RSFSR oblasts and krais. And what happened? Only the Niva Stavropolya NPO [Scientific Production Association] completed this work quickly and well. Others did unsatisfactory work.

In scientific institutions trouble-shooting and basic research as well as elaborations in the areas of biotechnology, genetic engineering and embryo transplants are still proceeding intolerably slowly. At the same time enormous assets are expended for carrying out research that has little current application.

It was also noted at the meeting that the process of organizing a network of scientific-production associations (NPO), which demonstrate in practical terms how we can integrate scientific-technical developments into production to a larger extent, was still moving slowly. In connection with this a desire was expressed to accelerate confirmation of the new model resolution about the NPO within the agroprom system.

A solution to the tasks assigned to scientists-agrarians by the 27th Party Congress can be achieved only with a sharp increase in the effectiveness of scientific research in the main directions. This is why every scientific-research institution must develop a more flexible and maneuverable structure.

The speakers paid special attention to questions of training and retraining scientific cadres, of attracting the younger generation to institutes and experimental stations and of increasing the responsibility of scientists for the quality of their elaborations.

L. N. Petrova, General Director of the Niva Stavropolya NPO, turned the attention of those present to the fact that it is essential to considerably improve the economic effectiveness of intensive technologies. In Stavropol Kray effectiveness is measured in every zone with a consideration of specific natural and economic factors. This enables us to achieve a great return from invested capital and to more efficiently utilize seed, fuel, fertilizer and the means of plant protection. In dealing with the problem comprehensively, NPO scientists together with specialists of the krayagroprom have developed a whole system for training people to precisely adhere to intensive technology.

Important questions concerning increasing the return on scientific research were also raised in speeches by A. I. Okhapkin, director of VNIETUSKh [All-Union Scientific-Research and Experimental Institute for the Technical Management of Agriculture], V. A. Dragavtsev, Deputy General Director of the Kuban-Zerno NPO, M. S. Runchev, Director of VNIPTIMESKh [not further identified] and other scientists. Unfortunately, not all of them were able to rid themselves of the ossified traditions of the past and reduced their reports to a personal report. This serves as one of the indicators that serious changes in the restructuring of the operations of the division's scientific institutions have not yet occurred. But the times demand it.

I. K. Kapustyan, Deputy Director of the Division of Agriculture and the Food Industry of the CPSU Central Committee, participated in the work of the annual meeting of scientists of the VASKhNIL VRO [All-Russian Division].

Siberia, Far East Conference

Moscow SELSKAYA ZHIZN in Russian 14 Feb 87 p 2

[TASS Report, 13 Feb, Krasnoobsk (Novosibirsk Oblast): "Meeting of Siberian Scientists"]

[Text] Among the numerous problems that the scientists of Siberia and the Far East are working on, increasing food resources by every means possible is being given one of the most important places. The main directions for research in this area were examined at a general annual meeting of the Siberian Division of VASKhNIL, which took place today [13 Feb] in the scientific city of Krasnoobsk. P. L. Goncharov, chairman of the division's presidium, presented a speech.

Positive changes in Siberia's grain industry are tied to increasing the accountability of scientists and to their focus on the more effective use of the possibilities of the region's agro-industrial branches. During the first year of the five-year plan wheat was cultivated according to intensive technology on an area of over 4 million hectares and the additional yield from each hectare comprised an average of 6 quintals. The front for the introduction of progressive technologies has also been expanded in livestock raising.

In the course of the ongoing restructuring we have begun looking for effective forms to integrate science and practice. The West Siberian and East Siberian technological centers for intensive technologies have been organized. Four scientific-production associations have been created on the base of institutes and experimental enterprises. The design base has been enlarged. Nevertheless, as stated during the meeting, the pace of research and of the introduction of research are lagging behind the growing needs of the agro-industrial complex. In accordance with the requirements of the January 1987 Plenum of the CPSU Central Committee, we should concern ourselves more with an increase of cadres and with their active participation in restructuring processes.

I. K. Kapustyan, Deputy Director of the Division of Agriculture and the Food Industry of the CPSU Central Committee, participated in the work of the meeting of VASKhNIL's Siberian Division.

8228

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MEETING ON CENTRAL ASIAN REPUBLIC APK DEVELOPMENT REPORTED

Moscow SELSKAYA ZHIZN in Russian 24 Feb 87 p 2

[Article by G. Brandt and M. Babintsev, SELSKAYA ZHIZN special correspondents: "Accelerated Development for a Land of Plenty: Notes From a Conference on the Problems of APK [Agro-Industrial Complex] Development in the Central Asian Republics"]

[Text] When the conversation turns to the Central Asian republics one often hears an enthusiastic, "A sunny land of plenty! Nature itself presents abundant gifts..." Yes, this region truly has a high bioclimatic potential, sufficient manpower and many years of practical experience working with the land and water. However, "nature itself" only facilitates, but does not guarantee granaries full of grain and high milk yields on farms, especially in terms of today's needs when the intensification of agricultural production is being given the supreme role.

The economy is the decisive sphere of the life of society. The path toward a high level of labor productivity is the transition toward the intensive course, toward new technology and toward the activization of the human factor. How successfully are cost-accounting contract collectives being organized in the kolkhozes and sovkhoses of this region? Has the scale of cultivation of cotton, corn and a number of other crops on the basis of the introduction of industrial technology been expanded? Why can't the process of assimilating modern management methods and approaches to work by cadres be carried out without painful phenomena? Haven't so-called stagnant phenomena become too "stagnant" in a number of regions? Now as never before organization, precision in work and the ability to maximally mobilize the creative forces and possibilities of labor collectives are important. We must engage the mechanism and means of restructuring more quickly and soundly! This must be done actively, creatively and competently.

The question of improving the utilization of production potential by the republics of Central Asia was the topic of a conference held on 21 February in Tashkent for secretaries of the central committees of the Uzbek, Kirghiz, Tajik and Turkman CP's, the secretaries of oblast committees of these republics who deal with agricultural questions, chairmen of agroproms [agro-industrial committees] of republics and oblasts and other workers of the agro-industrial complex.

Speaking at the conference was V. P. Nikonov, Secretary of the CPSU Central Committee.

Participating in the conference were V. S. Murakhovskiy, First Deputy Chairman of the USSR Council of Ministers and Chairman of USSR Gosagroprom [State Agroindustrial Committee], I. B. Usmankhodzhayev, First Secretary of the Uzbek CP Central Committee, I. I. Skiba, Director of the Department of Agriculture and the Food Industry of the CPSU Central Committee, N. F. Vasilyev, USSR Minister of Land Reclamation and Water Resources, A. I. Zverev, Chairman of the USSR Gosleskhoz [State Committee for Forestry], Academician A. A. Nikonov, President of VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] and a number of ministers.

The discussion was serious, self-critical and responsible. It was based on documents from the January Plenum of the CPSU Central Committee, which in addition to changes in the agricultural sector of our country also noted considerable shortcomings. The speakers were I. B. Usmankhodzhayev, N. F. Vasilyev, A. I. Zverev, Sh. A. Akmal Khanov, Chairman of the Presidium of the Central Asian Division of VASKhNIL, D. B. Amanbayev, secretary of the Kirghiz CP Central Committee, V. V. Vakhidov, Secretary of the Tajik CP Central Committee, A. N. Pushkin, USSR Deputy Minister of Light Industry, G. S. Mishchenko, First Deputy Chairman of the Turkmen SSR Council of Ministers and chairman of the republic's gosagroprom, P. A. Paskar, First Deputy Chairman of USSR Gosplan and B. M. Tursunov, General Director of the Uzbekkhlopkomash Association [Uzbek Association for Cotton-Production Machinery].

We know that in comparison with average annual indicators of the last five-year plan grain production increased in the country in 1986 by almost 30 million tons and that the production of potatoes, sugar beets, meat, milk and eggs increased. However, for crops such as vegetables, fruit, sunflowers and cotton there was either insignificant growth or production remained at the same level.

It was on this "however" that emphasis was placed, for the majority of the enumerated crops are most important for Central Asia. In the agricultural sector of this region we have accumulated production forces that will enable us to implement a large-scale transition of all agricultural production to an intensive path of development. During the last decade alone fixed production capital increased by 10.3 billion rubles here. What kind of return has there been?

Cotton is Important. But Only Cotton?

In recent times from our rostrums there was no shortage, to say the least, of mellifluous speeches and irrepressible praise concerning successes in cotton farming. Cotton was and would continue to be one of the most important crops of this region. Honor and fame to those peasants who through their skill and tireless labor in the fields achieved high indexes and strove toward new successes. But let's hold the praise. Especially since attempts by individual orators to follow the path of by-passing reports and general assurances were immediately met in the hall with the completely understandable rejoinders, "Can't you be more specific?" and "Get closer to what is bothering

people today." Let's listen to the demanding and sincere voices from the rostrum. The speeches emphasized that the most important thing was to more clearly see and more rapidly eliminate those negative phenomena which have accumulated within the branch during the last 10-15 years, and there are many of them. Enormous state capital investments into the Central Asian region still have not had the expected effect. In cotton farming the return on capital and profitability are low and there has been no decrease in per unit expenditures of material-technical resources and manual labor per unit of production. Fiber quality leaves something to be desired and it is no accident that the textile industry has serious complaints about it.

What is the problem? An increase (and as it turned out, an insignificant one at that) in yield of raw cotton was going well as a result of the expansion of crops and the destruction of the efficient structure of crop rotations in favor of a single crop. Cotton pushed almost all other of the region's needs out of the consciousness of some directors. One involuntarily asks: Why are there so few early vegetables and green crops in the stores of this blessed region? Where are the real calculations related to a sharp increase in corn grain? How did it happen that in the "green oasis" which was earmarked for fragrant crops by nature itself local confectionery enterprises must import aromatic additives, almonds, hazelnuts, peanuts and currants from the other end of the world? Thousands of tons of confectionery items are brought here from the central region of Russia.

A day earlier we talked to K. Ergesheva, senior technologist of Tashkent's Urtak Confectionery Factory. Here are her dismal revelations: "The republic's canners supply only applesauce, whereas we get our so-called stewed strawberries, cherries, quince and apricots from the Western Ukraine." A shortage! Even the famous Uzbek currant is not used for chocolate because, as was explained in the republic gosagroprom [agro-industrial committee], the problem of removing the tiny dry fruit stem has not been solved yet.

What do they mean, "the problem has not been solved yet"?

But let's return to cotton. Here intensive technology has been called upon to encompass the entire scientifically-based system of agrotechnical, reclamation and organizational-management measures. We need a variety that is productive, rapidly maturing, suitable for machine harvesting, resistant to diseases and pests and of course, that answers the needs of the textile industry. We need cotton-alfalfa crop rotations. Otherwise with the unsystematic use of land you will not only not produce magnificent high-protein hay but in the final analysis you will be short some cotton because the soil will lose humus and the best water-physical properties. There is no need to speak about the necessity for a systematic struggle against weeds. Naturally, we need fertilizers, but not in a heap! We are not following the unwise principle of "you won't spoil the kasha with butter." In those kolkhozes and sovkhoses where scientific recommendations are not followed as concerns the types, doses and schedules for applying mineral fertilizers, and where the optimal ratio of crops relative to fields is not adhered to, money is sometimes just thrown to the wind.

"Give nitrogen!" was the cry last year in Mekhnatabadskiy Rayon of Syr-Darye Oblast, and an average of 256 kilograms of nitrogen were applied per hectare. Farmers produced 8.3 quintals from that same hectare which was overfertilizer with unbalanced doses and uncared for in terms of cultivation. Don't we have evidence that surplus nitrogen results in the inordinately late maturation of cotton? Alas, this is not a rare case. In the chase for the gross yield some enterprises continue to top-dress (more accurately--to overstuff!) crops with nitrogen even in August. At the same time in the enterprises of Buvaydinskiy, Khankinskiy and Kommunisticheskiy rayon of Uzbekistan, where there is a familiarity with chemical science, the return on mineral fertilizers, especially when they are used in conjunction with local fertilizers, is fairly high.

In the brigade of S. Mallayev, recipient of the State Prize, from Samarkand's Leninabad Kolkhoz, no thought is given to cotton without a good application of manure to the soil. Poor sandy loams yield 47 quintals of raw cotton per hectare. Not far away, in the Kattakurganskiy Fattening Complex, where there are mountains of millions of tons of humus they try to convince directors of neighboring enterprises to apply these riches to their fields, and cannot convince them. That's that.

Of course we need an organization of labor which will really direct the peasant toward high end results while economizing and exhibiting an assiduous attitude toward work.

Finally, a word about technology. For a good 20 years scientists and designers have been talking about the need to satisfy the demands of cotton farmers by developing an improved and highly productive cotton-harvesting machine. About 100 candidate's and doctor's dissertations have been defended on this theme. Where is this desired combine which will help to harvest the cultivated crop completely and with great care? It cannot be seen in the fields.

The Union of Earth and Water

Special emphasis was placed on the necessity to begin using soil and water in a business-like manner. In this we have concentrated all of the tactics and strategy for moving forward. The resources of the basic water channels--of Syr-Darye and Amu-Darye--are severely limited and to move toward extensive assimilation of new lands in the future would be improper. This means that our course is toward intensification, toward the fuller and more complete utilization of reserves for increasing fertility and the moisture supply of fields.

An urgent problem is that of capital planning for land. We can say that this is the "problem area" for the majority of the region's enterprises. Who here is not familiar with this: You look at a map of cotton fields or at a rice plantation, at a corn plantation or at feed crops and you see that in one place the plants have withered because of the lack of water whereas in another they are suffering from waterlogging. And this is happening in the face of a general water shortage!

The conclusion is not a new one but for today it is especially appropriate--we must immediately and soundly begin land planning because scientific and practical data convinces us that this method will enable us to increase the productive force of fields by 20-30 percent.

Here special demands are placed on reclamation workers. It is no secret that they are often attracted by the "gross" in cubic meters of shifted soil whereas they approach careful field planning almost as a second priority. It is time to decisively focus the concerns of water managers on the end result--the harvest. They have great capacities and strong cadres at their disposal but the practice of achieving volume rather than quality has not yet become obsolete.

Soils that are poor in reclamation terms hinder the introduction of intensive technology. It is important to take all measures to decrease the level of mineralization of ground waters and to avoid the salination of the soil. We must "cure" the soil! This means drainage and washing, expanding the network and improving the quality of collectors and vertical drainage wells, and the precise operation of hydrometeorological networks. Closed horizontal, vertical and combination drainage systems are especially needed in the irrigated fields of the Kara-Kalpak ASSR and Bukhara, Kashka-Darye, Navoi, Khorezm, Tashauz and Mary oblasts.

How careful is our attitude toward water? To tell the truth, here and there actual irrigation norms significantly surpass estimates. At the same time, why not own up, in any given year we complain about a water shortage. But can we consider it normal that many fields receive water along extensive furrows for 2-3 days instead of the 10-16 hours called for in scientifically-based technology? Surface overflow reaches almost one-third, which unavoidably results in erosion and the washing away of humus. The water shortage requires the transition to irrigation along short furrows, the introduction of sprinklers, intra-soil and trickling irrigation and the extensive use of pipes and troughs. Time dictates that we must decisively eliminate water losses everywhere, beginning with the main water supply and ending with the plant root! It is clear how wasteful is so-called "dam" washing, which unfortunately has become quite widespread in recent years. It is time to establish washing norms on the basis of salt cartograms.

The Kara-Kalpak region--the basic rice-growing zone of Uzbekistan--has drastically decreased production of this crop. Again we hear the complaint about a water shortage. It is a fact that a hectare of rice utilizes up to 35,000-40,000 cubic meters of water. This is unjustifiably much! This attests to clear disorder in the reclamation industry.

What Kind of Help is Science?

Through the prism of business-like discussions the role of science becomes more evident as the most important part of a single agro-industrial complex. The restructuring being carried out now in the organization of science is based on its decisive turn toward the needs of public production. It must "nourish" the APK with fresh ideas while striving to implement them as rapidly as possible. More flexible organizational structures have appeared, the

barriers in the stagnant cadres situation in a number of NII's [Scientific Research Institute] have been removed and conditions are being created for the influx of young, creative cadres. But a great deal still remains to be done in order to change the concepts of people on whom the fate of the development and rapid introduction of scientific achievements depend. It is completely intolerable when accommodation, personal ambition and profiteering appear under the banner of business-like restructuring within the scientific sphere.

Without the uninterrupted introduction of the new it is simply impossible to push intensive economy forward. Scientific-production associations which are called upon to eliminate all impediments on the path of innovations from the laboratory and plot of land to extensive production fields have the first word.

But let's get closer to the work of the region and discuss breeding and seed farming. Here there is nothing to be proud of, and this was said very plainly both from the rostrum as well as during a lively exchange of ideas in discussions. Here is one phrase: "During the 1930's there were 10 breeders in Uzbekistan, and their varieties are still remembered today. Today thousands of scientists cannot name even two or three truly dependable varieties." This is a serious rebuke to science. The transition of seed farming to an industrial base is clearly being drawn out, and in this the Soyuzkhllopok NPO [All-Union Cotton Scientific Production Organization] and the VNII [All-Union Scientific Research Institute] for Breeding and Seed Farming of Cotton imeni Zaytsev are at fault to a considerable degree because they have not demonstrated the necessary initiative in solving this extremely important problem.

In criticizing specific errors and omissions in a business-like manner the speakers were by no means downgrading the work of all scientists under one umbrella. A shining example is the NPO for Horticulture and Viticulture imeni R. Shreder, which is directed by M. Mirzayev, Hero of Socialist Labor. This association repays with interest the investments into scientific research. Every ruble spent brings abundance—a six to eightfold increase. Here we have magnificent varieties of grapes and fruit and scientists are energetically and systematically developing support points by introducing their achievements in kolkhozes and sovkhoses. There are good elaborations in the Institute for Plant Protection and in the Institute for Vegetable and Melon Crops. Great hope is being placed on biological methods of fighting ant pests. But innovations are moving into production extremely slowly because scientists are still separated in many ways from the soil and from the daily concerns of kolkhozes and sovkhoses. Agricultural reclamation science has long looked apathetically upon old-fashioned furrow irrigation and some to this day feel it is the only method that can be used in Central Asia. And for science to become paralyzed means to fall behind!

Errors in the preparation and training for intensive technologies and new methodologies of those who work directly in fields and on farms have not been eliminated. But today we live in a time in which things will not move forward without skillful soil analyses and without precise agrochemical and salt maps.

Feed Production

Again we remember the words "green oasis," the truly limitless possibilities, and again we are perplexed about the very modest, to put it mildly, indexes which decide the fate of livestock raising. The contrasts here are very striking. Let's look at root crops. In the Tajik Kolkhoz imeni Lenin of Leninabad Oblast, where Chairman A. Samatov has been twice awarded the Hero of Socialist Labor, 1,500 quintals of feed beets are produced per hectare and this so-called milk-stimulating feed truly does "stimulates milk" in the hundreds of tons. Nearby, in neighboring enterprises, so-called "support" rations for animals are utilized. It seems that a herd does exist, but of what use is it?

Alarming words were heard from the rostrum about the low quality of forage in many of the region's enterprises and about the excessively great feed expenditure per unit of production. The RAPO [Rayon Agro-Industrial Association] and republic gosagroproms still have not taken full control of this branch although when the need arises they refer to it as most important and independent.

We must move from words to deeds more quickly! We need more examples, such as in Tashkent's 40 Let Oktyabrya Kolkhoz, where both cotton and forage fields are abundant. A hectare yields 11 tons of feed units and for this reason milk yield has reached 4,000 kilograms per cow, and the average delivery weight of animals has surpassed 400 kilograms. A quintal of milk costs 26 rubles, of meat—135 rubles. In the Kirghiz SSR there are many masters who have produced 130-150 quintals of corn grain. Finally, in any part of the Central Asian region you will be told that 150-200 quintals of alfalfa hay from irrigated fields is a completely realistic figure. Then where is it, this reality? Why isn't it evident in the feeder troughs of cows and sheep everywhere? The time has come to make open demands on those directors of kolkhozes and sovkhoses who do not give the necessary attention to this important matter.

Where There Are Contracts There is Order

Practical experience has convinced us about the high level of effectiveness of small collectives of intensive labor which are assigned land, technology and all necessary resources for a long period of time according to contracts. In the Kirghiz SSR's Yassy Sovkhoz Zh. Moydunov's link, for example, harvested 138.8 quintals of corn grain on each of 55 hectares, expending only 2.67 man-hours per quintal and sharply decreasing production costs. Wages depend on work.

The man who believes in the strength of contracts becomes a zealous, careful manager of the land. Thus any type of formalism, cost accounting "on paper," a superficial working through of contractual obligations and irresponsibility during the introduction of progressive forms of labor are all the more intolerable.

Why do some directors have preconceptions about family contracts, especially on small farms and for cultivating labor-intensive crops? Life convinces us of the necessity to support family initiative in every way possible when the family wishes to enter into an agreement.

Here is how the contract works for the Tajik family of M. Safarov of Kolkhoz imeni Lenin of Kulyab Oblast. Four people produce 56 tons of cotton with a productivity of about 53 quintals per hectare. The family's wages are substantial. But the net profit to the kolkhoz is 27,000 rubles! It is not surprising that today in this large enterprise 468 families have made the transition to family contracts; 65 percent of cotton fields are assigned to them. Contracts have solved the seemingly acute cadres problem. There is no longer any talk about city residents and university and high-school students helping out during the peak of harvesting operations.

What is now hindering others who wish to sign a family contract? Probably it is the willing or unwilling lack of acceptance by some directors and specialists of all that they are unaccustomed to and that does not fit into the framework of the longstanding system. The new system is just beginning to take hold and in a number of places it has almost been destroyed with the help of a zealous administration or simply due to the inertia of old concepts. It is said that these independent and enterprising workers are coming out from under watchful eyes. Are they moving in the right direction?

They are. They are not moving toward paragraphs of outdated instructions but toward the real replenishment of our tables with food products. Life requires that we eliminate the psychological barrier and develop the initiative of the managers of land more quickly. It is completely intolerable that in a number of Turkmen kolkhozes and sovkhoses the wages of farm and field workers do not correspond to production output, are poorly goal oriented and in some cases surpass growth in labor productivity.

The conference used convincing examples to "highlight" the inertia and immaturity of consumers' cooperatives. Can we consider it normal when there is not a single trading point in 232 Uzbek kolkhozes and sovkhoses? It is not only in Uzbekistan that we do not see a close relationship between consumers' cooperatives and enterprises and that the purchase of surplus products from the population is inadequately organized.

The Inquisitive Mind and the Bold Search

One usually discusses economic problems with an economist. One talks about water use with a reclamation worker. In cotton farming one talks to...And so on and so forth. But here is something interesting. On the eve of the conference we talked about all of these matters with B. Sanginov, the General Director of the Vakhta affiliate of the Zemledeliye NPO, and Bobo Sanginovich often concluded his remarks with the words, "Mingtura Butayev is of the same opinion." Great must be the authority of the kolkhoz brigade if B. Sanginov, well-known scientists in Tajikistan and a corresponding member of the republic's Academy of Sciences, respectfully points to its experience when discussing problems of intensifying agricultural production of this large region.

Yes, one can learn a lot from the brigade of M. Butayev of Kurgan-Tyube Oblast's Kolkhoz imeni Zhdanov. First of all, in two harvests last season 225 quintals of corn grain were produced on each of 17 hectares. Secondly, the brigade produces 47-48 quintals of fine-fiber cotton and 200 quintals of alfalfa hay in cotton-alfalfa crop rotations during any year. This is done without wilts and other diseases which have literally eaten away at the fields of supporters of monocultures and of lovers of hearty reports about the fulfillment and overfulfillment of "white gold" production at any price, who would actually be lucky if their grass grew. But it does not grow...Thirdly, the brigade threshes 40-50 quintals of winter wheat and then, 100 quintals of mature corn grain on each of 50 hectares. This is done in one summer.

This is the kind of sweep the brigade has--not in breadth but in depth. It is successful not because of area but because of yield and quality. In addition, because the brigade operates according to a contract, it is scrupulous about every ruble. For example, here you will be told that a kilogram of nitrogen fertilizer yields 22 kilograms of cotton. Here workers will self-critically add that they have given organic fertilizer inadequate attention as of yet. They will even tell you that a liter of irrigation water has been expended per 1.8-2 kilograms of raw cotton.

Emphasized at the conference was the necessity to organize competition in a new way and to use the spirit of competition better in the course of making a transition of the economy to the path of intensification. The famous names of leading workers and innovators in agricultural production--people of great professional skill, inquisitive mind and bold searching--were mentioned. There are people to use as role models and to measure ourselves up against! But support of them does not end with general words of praise. We must study their experience in detail and disseminate it and strive to make sure that each right-flank competitor have his followers and his school. Meanwhile, professional knowledge of farmers and livestock workers who work directly on farms and in fields in many enterprises still does not correspond to today's level of requirements. This was especially noted at the conference.

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RSFSR LIVESTOCK SECTOR DEVELOPMENT, INTENSIFICATION

Moscow ZHIVOTNOVODSTVO in Russian No 2, Feb 87 pp 2-5

[Article by Yu.V. Gorbunov, chief of the Animal Husbandry Administration of Glavzhivotnovodprom of RSFSR Gosagroprom: "Intensification -- A Key Trend in the Development of Russian Animal Husbandry"]

[Text] The first year of the 12th Five-Year Plan has ended. It was a difficult and tense year and one filled with important events in the life of the country. Work unfolded at kolkhozes and sovkhoses throughout the republic in connection with implementation of the decisions handed down during the April (1985) Plenum of the CPSU Central Committee and the 27th Party Congress produced its own positive results. On the whole, the annual plan for livestock and poultry procurements in the RSFSR was fulfilled by 106 percent, milk by 106, eggs by 108, and wool by 105 percent.

Considerable experience was accumulated on farms in Russia in the intensive management of animal husbandry and many opportunities exist for stable growth in the production of animal husbandry products. The successful fulfillment of the procurement plan for animal husbandry products became possible as a result of the use of intensive factors: raising the productivity of livestock and poultry, improving the reproduction and safeguarding of the herd, achieving more efficient use of feed resources and raising the quality of the products being produced.

In 1986, the average daily weight increase in cattle during fattening amounted to 526 grams compared to 491 grams in 1985 and beef production increased by 11.3 percent. Gross milk production increased by 5 percent and the average milk yield per cow was 2,506 kilograms, reflecting an increase of 150 kilograms compared to the 1985 level. A fine increase in livestock productivity was achieved on farms in Chelyabinsk, Sverdlovsk and Sakhalin oblasts and in the Tatar and Mari ASSR's. Considerable successes were achieved by animal breeders in Krasnodar Kray, where milk productivity reached 3,177 kilograms per cow and where more than 1,000 tons of meat and milk were sold.

The indicators of the best farms underscore the opportunities available for raising productivity. The collectives of farms at the kolkhozes imeni Vladimir Ilich and Leninskiy Luch in Moscow Oblast, the imeni Lenin Kolkhoz in

Tula Oblast and the Rossiya Breeding Farm in Chelyabinsk Oblast are obtaining more than 5,000 kilograms of milk per cow and at the Lesnoye Breeding Plant and the Razdolye Sovkhoz in Leningrad Oblast -- 6,700 kilograms per cow. Animal husbandry experts at the following sovkhozes are obtaining an average daily increase in young cattle stock of 1,000 grams and more: Nelazskoye in Vologda Oblast, Pashskiy in Leningrad Oblast, imeni 60-Letiya SSSR and Kumertauskiy in the Bashkir ASSR, Mtsenskoye in Orel Oblast, Dubrovskiy in Chelyabinsk Oblast and many others.

Many highly mechanized dairy complexes and farms have been created over the past few years. Highly effective work is being performed at the following specialized dairy sovkhozes: Vorsino, imeni Tsvetkov and imeni Kutuzov in Kaluga Oblast, Kashirskiy in Moscow Oblast, Ordzhonikidzevskiy and Shilovskiy in Sverdlovsk Oblast and many others. A concentration of animals and farm consolidation have expanded the opportunities for the introduction of new technology, for all-round mechanization and the automation of production processes and, on this basis, for raising labor productivity.

At the Novo-Rayevskiy Sovkhoz complex in the Bashkir ASSR (the 4th year of its operation), the live weight of young bulls increased from 51 to 454 kilograms over a period of 400 days of raising and fattening and the average daily increase in each animal exceeded 1,000 grams, against feed expenditures per quintal of weight increase of 540 feed units and labor expenditures of 3.5 hours. At the complex of the imeni 60-Letiya SSSR in Vologda Oblast, the live weight of young bulls of the black-variegated and Kholmogorsk strains increased from 50 to 450 kilograms in less than a year's time, with the average daily increase in weight being 1,028 grams. In the process, the feed expenditures per quintal of weight increase amounted to 540 feed units and the labor expenditures -- 3 hours. For such a level of intensity in the raising and fattening of young stock, labor productivity on the farm is higher by a factor of 16, feed expenditures are lower by a factor of 2.3 and production costs are lower by roughly a factor of two than the figures for sovkhozes in the RSFSR.

The operation of complexes which employ modern mechanization and automation equipment brought about a change not only in the nature of the work performed by livestock breeders, but also a further division and intensification of this labor and it made the work of animal breeders both attractive and creative. Youth display a great desire to work at such enterprises and this is very important.

At the same time, an analysis of the operational results for animal husbandry during the past year reveals that only the initial steps have as yet been taken in intensifying the branch and that the rates achieved thus far are clearly inadequate for carrying out the aims of the Food Program. Greater effort must be expended toward further intensifying production through more persistent introduction of progressive technologies.

There are still many farms and rayons on the whole which have not ensured fulfillment of the state tasks for the sale of meat, milk, eggs and wool. Of 1,858 rayons in the RSFSR which had plans for livestock and poultry procurements, approximately 15 percent did not cope with them. The plan for

milk procurements was not fulfilled by 18 percent of the oblasts and one third of the rayons in Orenburg Oblast. The farms in Kostroma, Rostov, Chelyabinsk and Kemerovo oblasts, the Bashkir ASSR and in the Altay Kray did not fulfill their plans for livestock and poultry procurements.

The attention of animal husbandry workers and all agroprom [agroindustrial committee] workers must be directed toward overcoming the lag that has developed. There should be no references made to objective circumstances or to weather conditions. The decisions handed down during the June (1986) Plenum of the CPSU Central Committee are oriented toward rejecting obsolete programs and stereotyped habits, bringing about serious changes in thought and recognizing the need for living and operating on the basis of new developments.

One of the chief tasks remaining to be solved in the near future in dairy cattle husbandry is that of increasing the milk yield per cow to 3,000 kilograms. In regions of developed dairy animal husbandry, a goal of 4,000-5,000 kilograms must be reached. This productivity is embodied in the all-round program for the intensification of dairy cattle husbandry at RSFSR kolkhozes and sovkhoses during the 1986-1990 period.

A strengthening of the feed base constitutes a decisive condition for the further development of animal husbandry. The task has been assigned of increasing considerably the production of hay, haylage, silage and root crops. A program for increasing protein production by means of pulse crops has been developed and is being implemented and special importance is being attached to the cultivation of rape for both green bulk and grain. Extensive use will be made of grain-haylage and mono-feed for feed procurement purposes. The goal has been assigned of having not less than 4,000 feed units per standard head, with 105 grams of digestible protein per feed unit.

The time is at hand for truly carrying out improvements in the meadows and pastures. A great amount of work is being carried out on the farms and yet the land reclamation organizations are still standing off to the side and neglecting the carrying out of the required volumes of land reclamation work on the meadows and pastures.

Good use is being made of the pastures in Leningrad, Kaliningrad, Vologda and Tyumen oblasts. As a rule, electric fencing is being used here extensively in the pasturing of cows.

In addition to creating a strong feed base as a decisive condition for further developing all of the animal husbandry branches, a need exists in dairy cattle husbandry for actively introducing the flow line-shop system of milk production and, on this basis, improving the production of the herd. This system is still being disseminated only slowly and in a number of areas only a formal approach is being employed in this regard. On 1 October 1986, approximately 9,000 dairy farms and complexes engaged in the maintenance of 4.3 million cows converted over to the use of this technology. The plans call for one half of the herd to be converted over to the flow line-shop system by the end of the five-year plan. This will require the modernization and construction of facilities for dry cows during the 1987-1988 period. One half

of the farms are lacking such facilities at the present time. Measures are being undertaken aimed at ensuring that each dairy farm is equipped with lying-in sections and calf veterinary dispensaries.

For the raising of heifers, extensive use will be made of individual outdoor cage veterinary dispensaries. Today it can be said that the use of this method has spread to various geographic zones throughout the republic. During the current wintering campaign, use is being made of more than 200,000 such cages. The results obtained from the raising of calves justify the conversion over to this method, during the next few years, of a considerable portion of the young stock.

These measures and also the elimination of shortcomings in organizing the insemination of animals are making it possible to lower the barrenness of cows and to increase the calf yield to 90 head per 100 cows.

Unfortunately, the successes realized in raising labor productivity have been too modest. More than 8 hours are being expended for the production of 1 quintal of milk, with the best indicator being 1 hour.

Despite improvements in the technical equipping of the farms (compared to 1975, all round mechanization increased by more than twofold in 1985), labor productivity is increasing only slowly. The workload per milkmaid increased only from 19 to 23 cows during this period.

This underscores the fact that the return expected from the resources invested in mechanization were never realized. And this was mainly the result of new technologies being a rare phenomenon on dairy farms. A low productivity system of maintenance predominates here.

It is a known fact that many farms are experiencing a personnel shortage. This problem must be solved only through the use of resource conserving technologies and a high degree of mechanization of labor-intensive processes.

It is also known that the loose housing technology for livestock maintenance ensures a high degree of labor productivity. Unfortunately, many farms have been unable to master this technology and in those areas where it was introduced in the absence of preliminary personnel training, where the herd had not been completed, where the principal requirements of this system had not been mastered and where little concern had been displayed for feed, the animals once again had to be tied up. Thus the loose housing-box system can be mastered only by those farms which have studied it well from a theoretical standpoint and are following the example set by the best farms.

The most acceptable cow maintenance technology at the present time is the multiple unit system involving the use of automatic stanchions. It combines the advantages of the tethered and non-tethered systems. The cows are kept in stanchions and milked in a milking parlor. Such a system was developed in a fine manner at the Pamyat Ilich Kolkhoz in Shchelkovskiy Rayon in Moscow Oblast. Based upon the experience of this kolkhoz, the system is being employed on a number of farms in Kuybyshev, Vologda, Sverdlov, Leningrad and other oblasts. On the whole, the task has been assigned of having base farms

with such a technology in each rayon and disseminating experience to other rayons based upon their experience. True, it was not possible to accomplish everything and this was mainly the result of a lack of stanchions. Industry is producing them in very limited numbers and unfortunately they are of low quality.

The introduction into operations on an extensive scale of the multiple unit system of cow maintenance is being held up by a shortage of milking equipment. The requests by the farms for UDA-8 and UDA-16 milking units are being satisfied by only one fourth.

Initial experience reveals that this system is progressive in nature and that a milkmaid is able to milk up to 200 cows. Labor expenditures for the production of 1 quintal of milk amount to 2-2.5 hours using the multiple unit system. Thus, use of the highly productive UDA-8 and UDA-16 milking units has become a necessity — they make it possible to reduce the number of operators by twofold.

A shortage of personnel is being experienced on many farms, especially in the nonchernozem zone. Measures are being undertaken in connection with housing construction, resettlement and retaining personnel at their posts. However, these measures will not solve the personnel problem on the farms so long as old methods continue to be employed there. Today a major concern is that of raising labor productivity by a factor of 2-3 through the modernization of existing farms, ensuring their all-round mechanization and improving labor organization while taking into account an increase in the per-worker workload.

This applies first of all to farms having 400 or more cows. A variant consisting of two cow barns for 200 cows each, connected together by a milking parlor, has proven to be quite successful. More than 37 percent of the farms are of this type, each with more than 400 cows.

In addition to large and medium size farms, we also have a large number (22 percent) of farms with less than 150 head. Approximately one third of the animals are being maintained at these farms and it is expected that they will continue for some time into the future. These farms are also in need of modernization.

Permit me now to mention the machine milking of cows. Can it be that we have problems in this area? Cows have been milked by machines for dozens of years and it would seem that the system has been worked out and mastered. But this would be the opinion of an individual who is not familiar with the technology or who has not studied the problem thoroughly. Unfortunately, many such people are to be found among the farm leaders and specialists. One serious shortcoming is the low professional training of milkmaids. Quite often, people who have not undergone even elementary training are allowed to operate milking equipment. This leads to breakdowns in the machine milking technology, to milk losses, to cows becoming infected with mastitis and to their premature culling out from the herd. Insufficient technical condition of milking equipment shows up as a large shortage, not meeting the elementary demands of operation.

Allow me to cite an example. Agroprom specialists carried out a technical inspection on some of the better farms in Moscow Oblast: Leninskiy Luch in Krasnogorskiy Rayon, Pamyat Ilich and imeni Lenin in Shchelkovskiy Rayon. Here the work performed by stations for the technical servicing of animal husbandry is considered to be exemplary and the farms have skilled technical personnel at their disposal. Nevertheless, violations of the vacuum regime are occurring on the farms, the requirements for vacuum work are being satisfied by only 45-50 percent, the drop in vacuum between the milk-line and the vacuum-line exceeds the norm by a factor of 2.5-3 and the drop along the length of the vacuum-line -- by a factor of 3-4. An inflow of air is being observed in the system, the vacuum-lines are contaminated in many instances, above normal wear and tear has been noted in the vacuum pumps and at times the vacuum regulators and vacuum meters have been defective. At the Kolkhoz imeni Lenin, one out of every three cows is infected with mastitis in a concealed form. This represents a loss of 17-20 percent of the annual milk yield.

All of this raises the need for systematic training for the milkmaids, brigade leaders and mechanic-trouble shooters on the farms; for the retraining of all workers and other technical workers; for radically improving the quality of the servicing and technical control over the technical condition of the equipment, for conducting zonal or republic seminars in the near future on the problems of machine milking; for carrying out audits and inspections of the milking equipment in all areas and for monitoring the manner in which the technology for machine milking is being observed.

In a number of rayons, there are technologist-instructors at STOZh's [technical servicing stations for animal husbandry] who are carrying out a great amount of work in training personnel in the operation of milking equipment. Such instructors should be available in each rayon.

A most important reserve for increasing milk production is that of further improving the organization of repair work on the principal herd. In order to carry out this task, a radical change is needed in the status of affairs with regard to the raising of replacement young stock. This work is in unsatisfactory condition on farms throughout the republic. In 1986, for example, the average daily increase in live weight in calves at kolkhozes and sovkhoses in Novgorod, Bryansk, Tula and a number of other oblasts did not exceed 300-350 grams. As a result, a considerable number of animals that had reached the mating age remained underdeveloped and had low live weights. Each year, up to 27 percent of the heifers 24 months of age or older remain uninseminated. Experience reveals that the most reliable method is that of creating specialized farms based upon intra-farm specialization. Many examples of fine work by such farms are to be found in Omsk, Sverdlovsk, Kuybyshev and other oblasts.

The barrenness state of the brood herd continues to remain high. In 1985, the calf yield per 100 cows on farms throughout the republic was 79 head and in Bryansk, Tambov, Amur, Kalinin and a number of other oblasts -- 69-73.

Further intensification of animal husbandry operations is unthinkable in the absence of improvements in selection and breeding work directed towards improving the pedigree and productive qualities of the animals.

At the present time, further improvements have been introduced into the all-round plans for carrying out selection-breeding work in each oblast, kray and autonomous republic. They call for the extensive use of young bulls of the Holstein, Ayrshire, Anglerskaya and Shvitskaya strains for creating highly productive herds suitable for the use of industrial farm management methods.

This work is already producing positive results. For example, second generation hybrids of the Simmental X Holstein strains have been obtained at the Razumenskiy Sovkhoz in Belgorod Oblast. Here the milk yields exceeded 4,950 kilograms of milk per cow, or 1,500 more kilograms than that obtained from the pure strain breeding of Simmental cows.

Fine yields have been obtained from similar hybrids at the Sovkhoz imeni Lenin in Tambov Oblast and the Nazarovskiy Sovkhoz in Krasnoyarsk Kray. Plans call for an expansion in the work of checking young bulls for the quality of their offspring and raising improvement bulls at breeding enterprises and at the best breeding farms.

Today a dairy complex or a mechanized farms is a large scale enterprise where a large number of animals are concentrated and where complicated and highly productive mechanisms and items of equipment have been installed. Such enterprises require well trained personnel, skilled management and efficient zootechnical work with the herd. Under the new conditions, work must not be carried out based upon old traditions and a low level of knowledge. Each worker, specialist and leader must be trained for his work.

Work is presently being completed on an all-round program for increasing beef production based upon the introduction of intensive technologies and methods for raising and fattening livestock at kolkhozes and goskhozes in the RSFSR.

During the current five-year plan and in subsequent years, a technology for raising heifers from 15-20 days of age, with extensive use being made of rich whole milk substitutes and starter mixed feed, will be introduced into production operations.

With regard to increasing beef production, great importance will also be attached to the organization in all areas of fattening regimes for adult culled out cattle, to the fattening of hybrid young stock obtained from industrial crossings of low productivity cows with beef cattle bull strains and also to the development of specialized beef cattle husbandry.

In 1986, a majority of the oblasts, krays and autonomous republics raised the average delivery live weight of the cattle delivered to meat combines for slaughtering. For the RSFSR as a whole, it increased by 22 kilograms and reached 384 grams, thus making it possible to obtain 232,000 additional tons of meat from the same number of animals. But the farms in Novgorod, Pskov, Bryansk, Kaluga, Yaroslavl and Astrakhan oblasts, the Dagestan ASSR, North Ossetian ASSR, Tuva ASSR, and in the Yakut ASSR are continuing to turn over their cattle at weights lower than 350 kilograms, with the average daily increase in live weight here being lower than the republic's average

indicator. Correct and profitable use must be made of the considerable resources being made available for expanding beef production and they must be employed mainly for the modernization of existing farms.

Great tasks have been assigned to the swine breeders of Russia. Pork production in the public sector must be increased 4.4 percent annually by raising branch intensification and by maintaining the swine productivity at a high level under the conditions found at the swine breeding complexes. Improvements must be achieved in the utilization of the brood stock. Roughly 1.9-2 farrowings should be obtained annually from the sows and a yield of 18-19 suckling pigs. An equally important task is that of improving the use of animals undergoing fattening regimes and the fattening periods should be shortened after first raising the average daily weight increase in the hogs to not less than 450 grams.

The principal method for developing swine husbandry is the further introduction of and improvements in the flow line technology for pork production. This technology is presently being employed for more than 60 percent of the animals.

A great amount of work in economizing in the use of concentrated feeds in swine husbandry is being carried out by the swine breeders in Belgorod Oblast, where the proportion of concentrated feed for the production of 1 quintal of pork has been lowered to 65 percent. Sugar beets and a milled mixture of corn ears and husks and various additives play a considerable role in the ration for hogs here. High output feed preparation shops have been created at the larger swine husbandry farms.

Sheep raising is beset by many problems. In the zones of pasture sheep raising, this branch is greatly dependent upon the weather conditions. A great amount of harm is inflicted upon sheep raising during dry years and thus a principal concern here is that of having a stable feed base and the required reserve of feed.

In 1986 there was an increase in the number of sheep and the plan for selling wool to the state was fulfilled. Despite the fact that the quality of the wool has improved in recent years, many of the branch's problems are still being resolved in an unsatisfactory manner. Although certain improvements have been realized in the production of wool, there have been none in connection with mutton production. Each year, 60-62 percent of the mutton deliveries consist of lean meat and this underscores the unsatisfactory organization of sheep fattening operations.

The leaders and specialists attached to agroindustrial organs, kolkhozes and sovkhoses in the Russian Federation must carry out more work aimed at creating fattening sites and stations for sheep in the various areas. Special concern must be displayed for Romanov sheep raising. Improvements must be achieved in the maintenance and feeding technology and in the breeding qualities of animals of this strain.

Life confirms the fact that positive changes take place mainly in those areas where skillful use is made of the economic levers of administration and where a firm course is followed aimed at accelerating and placing in operation a principal and inexhaustible reserve -- the human factor.

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TAJIK ENERGY PRODUCTION, USE EXAMINED

Dushanbe AGITATOR TADZHIKISTANA in Russian No 24, Dec 86 pp 8-10

[Interview with Bakhrom Sirozhevich Sirozhev, Tadzhikglavenergo (Main Tajikistan Power Production Administration) director and candidate of technical sciences, by AGITATOR TADZHIKISTANA correspondent Yu. Magel: "Power Engineering: Days on the Duty Shift"; first two paragraphs are source introduction]

[Text] This year, particularly during the fall-winter seasons, an extremely unfavorable situation came about in the republic and in our country's Central Asian Region overall, concerning the supply of power to the national economy. The TaSSR CP Central Committee and Council of Ministers adopted a number of resolutions aimed at ensuring the operation of our enterprises, organizations and institutions in the face of an acute electric power shortage.

The republic's power production workers bear particular responsibility during this period. On the eve of the professional holiday devoted to this sector's workers, our correspondent Yu. Magel met with Director of Tadzhikglavenergo and Candidate of Technical Sciences Bakhrom Sirozhevich Sirozhev and asked him a number of those questions which are most frequently raised in letters from our readers.

[Sirozhev] Certainly, in view of the situation we were faced with, we've had to put our holiday concerns on the back burner. Still, 22 December of this year is a double holiday for the republic's power production workers. The fact is, the first hydroelectric generating set of Tajikistan's first "large-scale" hydroelectric power station, the Upper Varsobskaya, came on stream in December 1936. This is why we decided to celebrate the 50th anniversary of the formation of the TaSSR's power production system on Power Worker's Day.

[Magel] By and large the people of the republic have an excellent picture of the reasons for the strain on the electric power supply. But shouldn't we more specifically retrace the chain of events which led to the present low water levels and shed some light, so to speak, on the power production aspect?

[Sirozhev] During the autumn and winter, there is increased demand for electric and thermal power for all sectors of the national economy as well as

for domestic needs. And this is understandable. The shortened daylight hours increase the demand for artificial electric illumination, and more power is needed to heat our industrial, agricultural and municipal enterprises and our residential and domestic service facilities.

However the republic is presently faced with a most unfavorable situation with regard to supplying power during the fall and winter months, in which connection power use and demand require very strict accounting and economizing.

What are the reasons for what happened?

Hydroelectric power stations are the foundation of our republic's electric power production capabilities. The operation of these facilities depends directly on the flow of the rivers on which they have been built. Special water reservoirs have been built at some hydroelectric power stations for the purpose of increasing the possible output of electric power during the winter when the flow of water in the rivers is greatly reduced. The water which accumulates in these reservoirs during the spring is used to generate additional electric power.

This year stands out as a year of extremely low water levels: the flow of water along the republic's rivers was considerably less than during preceding years and came to only 72 percent of the average annual level. The situation was made more acute by the fact that for almost the entire growing season, the water which had accumulated in the reservoirs was inadequate to the task of irrigating our agricultural lands. Moreover, the reservoirs had to be depleted to finish irrigating the fields, and water did not begin accumulating in the reservoirs until September. Compared to past years, when the Nurek Water Reservoir is usually completely full by now, this year it was only one quarter full.

The substantial shortage of electric power during the winter also helped bring about this situation.

[Magel] A sliding schedule of days off has been introduced by decision of the republic's directive agencies. But what other measures have been taken, including by you, to stabilize the power supply and economize as much of our energy resources as possible?

[Sirozhev] The positive results of introducing the sliding schedule of days off were felt as far back as the first week after 15 October, thanks to a certain levelling of the demand for electric power during weekdays. Thus, the demand on Sunday increased by about one million kW hours, but decreased by almost 1.5 million kW hours on Monday.

The decision was made to accelerate construction of the cooling tower at the Yavanskaya TETs [Heat and Electric Power Station]. According to the plan, it was supposed to be put into operation in 1966. Considering the situation which occurred, the first section of the cooling tower will start operating some time this year, and the entire cooling tower will start operating in 1967. Putting the first section of the cooling tower into operation will

increase the output of the Yavanskaya T&Ts 1.5-fold, and 2-fold when the entire cooling tower is in operation. It has been decided to put certain rebuilt small-scale hydroelectric power stations into operation. These stations may become sources for supplying electricity to industries located in high mountainous areas. They have been operating in the Dzhirgatal'skiy, Kalaykhumb'skiy and Ordzhonikidzeabad'skiy rayons since 1 November.

Allow me to say that the carrying out of the above-enumerated jobs can improve the situation only slightly, but does not altogether solve the power supply problem. This is why we are taking additional measures to bring to order the consumption and economizing of power. Every worker in the republic must participate in the effort to bring order into our usage of power.

We have developed a system of measures to equalize the electric load schedules for the republic's power system by changing our enterprises' swing shifts over from the evening maximum to night hours and tightening up control over cases of theft and waste of electric power. Electric boilers and other electrothermal devices and equipment used to heat residential, domestic and economy-related buildings must be disconnected from the power system everywhere. Street lighting has been cut back by half and all commercial electric advertising signs have been shut off.

Industrial enterprise collectives will play a major role in organizing measures for saving electric power, particularly such high energy use facilities of the YuTTPK [Southern Tajik Territorial and Industrial Complex] as TadaZ [Tajik Aluminum Plant], the Tadzhikkhimprom [Tajik Chemical Industry] Production Association, VATZ [not further identified] and others. We need to observe strict production conditions here, and more actively mechanize and automate our production processes.

[Magel] The present situation is a severe test of each ministry, department, enterprise organization and primarily of their power-production services. You no doubt have various facts at your disposal: not only examples of a businesslike attitude to this matter and of understanding of the critical nature of this situation, but also evidence of the direct opposite.

[Sirozhev] All this is true, unfortunately. As of this very day, of the 38 enterprises which are to be changed over from swing-shift to night-shift operation, only 25 have done so.

The largest hotbeds of inefficient use of electric power have been found in the Dushanbe Cable Plant and the Emalposuda Plant in Leninabad where, because of inefficiently operating kilns, they have incurred annual losses of electric power amounting to 1,045 million kW/hours and 3 million kW/hours respectively. Inspections have revealed cases of non-rational use of electric power with relative yearly losses of 173 million kW/hours.

All enterprise managers care about metal, timber and component parts supplies, but not all of them are interested in whether they have electric power reserves.

The Tajik Aluminum Plant exceeded the limit by more than 10 million kW/hours, the Tadzhikkhimprom Production Association did so by more than 7 million kW/hours and the Shaartuz, Khodzentskiy and the Pyandzh cotton gins by a total of more than 300,000 kW/hours of electric power. In all, they used up over 19 million kW/hours above the limit.

[Magel] What new things will the coming year have in store for the sector's workers? What sort of projects are going to show up on the republic's power production chart?

[Sirozhev] Even given all the intensity of the power shortage which has come about, this is a solvable problem. There is an alternative, and it consists in accelerating the construction of new generating facilities, the first of which should be the Rogunskaya GES. The putting of the Rogunskaya GES's first capacities into operation has been scheduled by the 27th CPSU Congress for this five-year plan period. The volume of our construction and installation work will be greatly increased in 1987. The pace of work on the Pamirskaya GES-1 is to be stepped up as well. The smaller streams in the Pamirs are to be developed on a broad front. We have developed a plan for using the small rivers of the Kalaykhumbkiy, Vanchskiy, Rushanskiy and Ishkashimskiy rayons, where we can construct 28 small-scale GES's. We plan to begin designing and then building two or three of them during the 12th Five-Year Plan period.

As B. S. Sirozhev said in conclusion, the carrying out of these crucial assignments, together with an extensive complex of organizational and technical measures for all-out economizing on electric power gives us reason to hope that we can successfully overcome the difficulties which have arisen. And that this will take place sooner, as the understanding of each worker in the republic--be he an enterprise manager or a rank and file worker--becomes more profound with regard to his role in the unfolding struggle for every conserved kilowatt/hour of electric power.

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RSFSR GOSPLAN OFFICIAL ON MOTOR TRANSPORT ISSUES

Moscow AVTOMOBILNYY TRANSPORT in Russian No 1, Jan 87 pp 1-3

[Article by RSFSR Gosplan Deputy Chairman D. Dudnev: "Improving the Economic Mechanism"]

[Text] In completing the tasks set by the 27th CPSU Congress for developing the national economy, general-purpose transport has a great role to play, as the most effective and most economical method.

In the current five-year plan this type of transport will receive preferential development in the RSFSR. It is planned to increase the volume of loads shipped by 33.3 percent and passenger turnover by 17.6. Owing to this the needs of the national economy and the public for shipments will be more fully satisfied.

It is planned to achieve accelerated development of general-purpose transport by means of intensive factors: by extensive use of heavy-load trucks, large-capacity buses, trailers, containers and packets; and by introducing advanced technologies and automated control systems. Measures have been outlined for switching the vehicle fleet over to compressed and liquified gas, in order to economize on petroleum-based motor fuel. Large capital investments will be directed toward developing the industrial base of general-purpose motor transport.

In carrying out these plans, further improvement of planning and labor incentives; increasing the role, responsibility and activity of labor collectives in organizing the transport process and in solving questions of production, planning and directing; and working out and implementing measures for improving the working and living conditions of the workers, are called upon to play a most important role. It is namely here that there are great possibilities for utilizing production reserves.

In 1986 all transport ministries were switched to new work indicators.

An experiment for improving the wage system was conducted at a number of enterprises of the RSFSR Ministry of Motor Transport and certain union republic ministries. In the course of this experiment, an effective wage system and certain planning indicators for motor freight shipments were worked out.

Since January 1986, five territorial associations of the RSFSR Ministry of Motor Transport, general-purpose motor transport of Belorussia, Latvia, Georgia and Kazakhstan, and the Moscow Main Motor Transport Administration, have been switched to new management methods.

Accumulated experience has permitted working out effective proposals for carrying out the new stage of economic reform.

It was deemed necessary for general-purpose motor transport to implement a complex of measures for further improving planning, and stimulating the activities of associations (enterprises) and organizations; and for increasing the roles, responsibilities, and initiatives of working collectives in organizing shipments in strict compliance with contracts, in solving problems of production and management, in working out and implementing plans, and in improving the workers' living and working conditions. Toward these ends, commencing 1 January 1987 general purpose motor transport enterprises of all republics are to be switched to new management conditions.

Restructuring the management system in the branch will be accomplished on the basis of increasing the role of the five-year plans for economic and social development. This is an important stage in preparation for placing branch enterprises on a total cost accounting and self-financing basis.

What are the peculiar features of the new stage of economic reforms in the most important directions? Questions of improving planning envisage transition to economic methods of management, and overcoming "gross output" and expensive approaches to planning. Expanded use will be made of stable economic normatives, which tie-in the resources and means allocated to the enterprises for material incentive with the end results of the work, and the number of indicators fixed by directive will be reduced.

The following indicators and ceilings are to be fixed in enterprise five-year and annual plans for economic and social development: overall volume of shipment in tons (estimated)--in the five-year plan; overall volume of shipments in tons, as the basis for concluding contracts, including those for ministry and department freight shippers in accordance with contracts--in annual plans; passenger turnover (estimated)--in five-year plans; overall income from passenger transportation, to include city buses--in annual plans; and volume of domestic services rendered to the populace--in annual plans. Tasks for scientific-technical progress, expenditures per ruble of income from all kinds of activities, profits, growth in labor productivity, limits for state centralized capital investment and construction-installation work, putting fixed assets into operation, and limits for material-technical resources (according to consolidated lists) are to be established in five-year plans; and, funds for basic kinds of material-technical resources--in annual plans.

The volume of capital investments, construction and contract work, and also putting fixed assets into operation through the production development fund and the fund for socio-cultural measures and housing construction, now will be considered in the ministries' plans in accordance with proposals from the enterprises.

Volume of capital investments, construction and contract work, as well as fixed assets put into operation at the expense of the production development fund and the fund for socio-cultural measures and housing construction, will now be counted in the plans of the ministries in accordance with the proposals of the enterprises.

Ceilings on the number of workers and office personnel are determined by the enterprises on the basis of the approved indicators, and are coordinated with the territorial planning organs at the draft plan development stage.

The ministries are obligated to ensure that the conditions of the experiment on improving the pay of truck drivers, being conducted in accordance with the decree of the CPSU Central Committee and USSR Council of Ministers of 5 August 1983, spreads to all subordinate enterprises.

When planning and accounting for volume of freight shipments carried out by truck drivers, enterprises must make wide use of the indicator for freight shipment volume in paid vehicle-ton-hours and introduce the time rate-bonus pay system for them, with assigned standard tasks and pay for normative work time.

Expanded use of economic normatives must be made when planning the enterprises' activities. For this purpose the following economic normatives have been approved for the five-year plans of the enterprises as well as for the ministries as a whole: deductions from profits for the state budget; wage fund per ruble of income from all forms of activity; wage fund for supervisors, engineering-technical workers, and office workers; wage fund for designers, production engineers and scientific workers; formation of a fund for developing production from profits and depreciation deductions, intended for complete restoration of fixed assets; formation of a material incentive fund from profits; formation of a fund for socio-cultural measures and housing construction from profits; deductions from profits for the ministry's reserve fund for the enterprises; and, correlation between the increase in average wages and the increase in labor productivity--in annual plans as well. Ministries have been authorized to differentiate economic normatives according to enterprise.

Economic normatives should be worked out in the form of control figures and provided to the enterprises prior to the start of plan development. The economic normatives established in the five-year plan are not to be altered.

On the basis of approved indicators, ceilings, economic normatives, contracts and orders, enterprises are to independently work out five-year and annual plans for economic and social development, and financial plans. At the same time, effective use of material, labor and financial resources must be ensured.

The rights of ministries to plan their own industrial production have been significantly expanded. They have been given the right to establish indicators, ceilings and normatives in their five-year and annual plans for industrial activities. For production and delivery of products with other ministries for export, the given factors are to be coordinated with the union republic Gosplan authorities.

Today the rights of enterprises are being significantly expanded in the areas of production and social development.

It has been established that the enterprises will set up the production development fund in accordance with norms which are stable for the five-year period, depending on the level of use of basic production assets and the results of economic activities.

Enterprise managers have been given the right to make use of the assets of the production development fund, upon agreement with the working collectives: for financing expenditures for technical retooling, as well as reconstruction of existing enterprises and production; for expenses for putting on-line and preparing new production technology, and for introducing progressive technological processes and advanced forms of organizing shipments; and, for carrying out measures to eliminate transport bottlenecks, increase labor productivity and reduce expenditures, increase output of consumer goods and sales of services to the public, expand their assortment and increase their quality; and for other measures.

In order to reduce construction periods it was established that planning and budgeting documentation and work schedules for technical retooling carried out at the expense of the production development fund and credits, are to be worked out by the enterprises independently, and approved by their managers. The enterprises have been given the right to make, when deemed economically expedient, additional expenditures for technical retooling of fixed capital over and above the ceilings for state centralized capital investments stipulated in the plan; these expenditures are to be made at the expense of part of the assets from depreciation deductions intended for major repairs.

A proposal was made to USSR Srobybank and Gosbank to offer enterprises credit within the limits of the plans for long-term financing, when the assets of the production development funds are insufficient. These credits are intended both for planned expenditures connected with carrying out measures for technical retooling and reconstruction, as well as for carrying out highly-effective measures for technical retooling, the need for which arises in the course of fulfilling the plan. Assets from an enterprise's production development fund may be accumulated for carrying out necessary measures in succeeding planning periods and are not subject to withdrawal.

The fund for socio-cultural measures and housing construction is playing an increasing role in solving social development problems of the working collectives. During the 12th Five-Year Plan, to the extent that the necessary prerequisites are established, it is intended that the assets of this fund become one of the principal sources for financing construction of living quarters, children's institutions, preventive clinics, Pioneer camps, and other projects.

Non-industrial construction projects carried out at the expense of assets from the fund for socio-cultural measures and housing construction are maintained within the limits of capital investments. It is recommended to the working collectives that when they work out estimates for use of this

fund, they direct not less than 50 percent of the assets to construction of housing, children's preschool institutions, and to health-care and socio-cultural establishments.

Work on technical retooling, reconstruction of existing enterprises, and construction projects for nonproduction purposes at the expense of assets from the indicated funds can be carried out by subcontractors or by the firm's own works department.

When working out draft plans for capital construction, USSR Gosplan and union republic councils of ministers, construction ministries and departments, and client ministries as well, must make inclusion of these projects a top priority. Measures have also been defined for improving material-technical support to construction measures at the expense of these funds, and bank credits at all levels.

Important measures have also been defined for strengthening self financing, and ministries and departments are obligated to guarantee observance of the self-financing interests of their subordinate enterprises, and not to permit redistribution of the profits of enterprises operating at a profit in order to cover the losses and other expenses of unprofitable enterprises or those operating with planned losses, over and above the deductions which correspond to established normatives.

In their five-year plans, ministries must stipulate the ceilings for subsidies to subordinate unprofitable enterprises or those operating with planned losses, and plan for progressive reduction of those subsidies (except for those enterprises which operate city bus lines).

A reserve fund with stable normatives has been established in the ministries. The assets of this fund are directed toward financing planned expenses of unprofitable enterprises and those operating with planned losses, within the limits established for subsidies; for scientific-research and planning-designing work, and other expenditures common to the branch; for creating reserves for the material incentive fund, and the fund for socio-cultural measures and housing construction; for providing temporary financial assistance to enterprises; and for other purposes.

In order to increase the enterprises' responsibility for their work results, it has been established that when the plan for profit is underfulfilled in an amount up to 2.0 percent, ministries and enterprises are to send to the state budget the normative deductions from profits stipulated in the financial plan, in established amounts, at the expense of an appropriate reduction in the profits which remain at their disposal. When the plan is underfulfilled by 2.0 percent or more, deductions for the state budget and the part of the profits remaining at their disposal are reduced proportionally.

Enterprises are authorized to form financial reserves in an amount of up to 5.0 percent of the normative of their own working capital, at the expense of their remaining profits.

At the expense of profits remaining at their disposal, enterprises submit payments to the state budget in the amount of 3.0 percent of the value of stocks of valuable commodities, materials and uninstalled equipment that are in excess of the permitted norms, and for which they are not indebted to the state bank.

In order to strengthen self financing and increase the enterprises' material interest in developing city bus transportation in the union republics, it has been proposed to put a nominal tariff into effect for passenger bus transportation in the cities, in order to remunerate these enterprises for their planned expenses and for them to receive the necessary profits. The difference between the existing and the nominal tariff is compensated for by the ministries at the expense of profits from other activities.

Union republic ministries and enterprises must increase their efforts on increasing self-financing within the industry, and also on expanding the practice of setting up consolidated, integrated self-financing brigades, in which workers are paid according to the end results of the brigade's work.

Measures are being introduced on increasing the working collectives' material interest in increasing the effectiveness of motor transport. In order to do this, the enterprises' wage fund and material incentive fund are defined in the annual plans and are reckoned in the course of plan fulfillment on the basis of the stable normatives confirmed in the five-year plan.

Enterprises have been granted wide latitude in the use of the wage fund and material incentive fund for increasing the incentive role of bonuses, additions, supplementary payments and raises depending on the end results of the workers' efforts. The enterprises were also granted the right to independently approve the management structure.

In order to increase the enterprises' responsibility for fulfilling shipping contracts and movement schedules, it has been established that the absolute amount of the enterprises' material incentive fund will increase by 15 percent during the course of fulfilling the annual plans, if the plan for freight shipment is accomplished in accordance with contracted obligations or in accordance with planned bus route trip schedules. When the stated conditions are not met, the amount of the material incentive fund decreases by 3.0 percent of the planned amount of the fund for every 1.0 percent of the plan not fulfilled. At the same time, overfulfillment of the plan for some loads does not compensate for underfulfillment of the plan for others.

In case enterprises violate the established normative relationship between the increase in average wages and the growth of labor productivity, part of the material incentive fund formed according to the normative, is reserved for use upon achievement of the normative relationship, or is transferred to the fund for socio-cultural measures and housing construction.

Savings from the wage fund not used prior to the end of the year remain at the disposal of the enterprises and are transferred to the material incentive fund, within the limits of the profits remaining at their disposal, when the plan for shipments and growth of labor productivity are fulfilled.

In case of overexpenditure of wage funds, the latter are covered by assets from the material incentive fund, within the limits of the savings from the wage fund transferred to the material incentive fund the previous year.

The rights of territorial associations and enterprises to make use of existing assets have been significantly increased. Territorial associations (administrations), on agreement with the ministries, are authorized to set up a reserve in an amount of up to 1.0 percent of the wage fund (within the framework of the established amounts for formation of a reserve for the wage fund for the ministry as a whole).

In working out their five-year and annual plans, managers have been granted the right to direct, with the consent of the working collective, part of the assets of the material incentive fund to the fund for socio-cultural measures and housing construction, for financing the construction of residential housing and other objectives for social purposes. When the assets of the fund for socio-cultural measures and housing construction are inadequate, long-term loans will be offered, to be paid off at the expense of the assets of this fund.

Major motor transport enterprises from other ministries and departments are authorized to switch to the new management conditions with the consent of the Commission for Improving the Management, Planning and Economic Mechanism of General-Purpose Transport; and also to introduce for truck drivers a time-rate-bonus wage system, with established standardized assignments.

The working collectives, officials at the territorial organs of motor transport administrations, trade union organizations, and the staff of the RSFSR Ministry of Motor Transport, are faced with the tasks of rapidly introducing the new management system everywhere, widely utilizing the rights granted them, and increasing the responsibility for the end results of motor transport operations. The assets of the production development fund and the fund for socio-cultural measures and housing construction should be fully realized for expanding the scale of use of scientific-technical progress, mechanization and automation of labor, as well as for developing the social sphere. A precise working rhythm must be established in the branch from the earliest days of 1987.

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MINISTER ON KASSR MOTOR TRANSPORT SECTOR PERFORMANCE

Alma-Ata AVTOMOBILNYY TRANSPORT KAZAKHSTANA in Russian No 1, Jan 87 pp 2-5

[Article by Kazakh SSR Minister of Motor Transport A. Tomashets: "Take a More Decisive Approach to Acceleration"]

[Text] In the 12th Five-Year Plan the collectives of the republic's general-purpose motor transport organizations are operating in an atmosphere of great political and labor enthusiasm, progress, searching, and renewal. The resolutions of the 27th CPSU Congress and the 16th Congress of the Kazakh CP have become timely programs for practical activity: creative thinking has been stimulated; and each motor vehicle operator has begun to take a critical look at his own work. The initial results of this approach to business are in: the branch has successfully fulfilled the basic plan indicators and its socialist obligations for 1986.

The ongoing restructuring has permitted increasing by a factor of 1.5 the growth rate in the volume of freight and passenger traffic, and a twofold increase in the growth rate for labor productivity and profit, in comparison with the average annual rates for the 11th Five-Year Plan. And what is especially important, is the fact that fulfillment of planned volume of freight deliveries is assured across practically every ministry and department.

Plans were successfully implemented for freight and passenger turnover, for the work volume of taxis, for transportation-dispatch services to the public and for realization of industrial production.

Last year greater attention was devoted to widespread introduction of progressive forms and methods of organizing the transport process. Measures are being taken for accelerating scientific-technical production; intensifying production; and universal introduction of the achievements of science, technology, and advanced equipment.

The 6th Session of the USSR Supreme Soviet, the 11th convocation, has worked out a program of acceleration for the year 1987. Plans for the republic's motorists, which must be realistically carried out, are extremely intensive. The volume of freight shipments is to reach 643 million tons and freight turnover up to 19,240 ton-kilometers, which amounts to 109 and 108.7 percent in comparison with the plan for 1986. Passenger turnover and the volume of work for taxicabs are to increase by 3.7 percent. Over 80 percent of the planned increase in freight transfer operations is to be realized by virtue of increasing labor productivity.

With the branch's transition to the broad-scale economic experiment, one of the main indicators for branch performance is the unconditional fulfillment of the freight shipment plan for each enterprise, and each organization, ministry and department as a whole, in accordance with the contracts concluded.

However, work results testify that a number of motor transport administrations are still working in the old manner, and have not yet reorganized to ensure unconditional fulfillment of the plan for every freight shipper.

One can have no patience with such an attitude toward carrying out the state plan. Every labor collective is obligated to ensure steady and rhythmical fulfillment of the plan for freight shipments for all enterprises and organizations in the national economy, and to operate an effective system of control over fulfillment of planned tasks.

Significant resources for increasing the work effectiveness of motor transport are to be found in further improvement of the transshipment process, and in widespread introduction of advanced methods and progressive forms for delivering loads.

Under the new conditions a number of additional measures must be implemented to increase the quality of transport services. The task is being set to achieve the capability in the next two or three years to provide comprehensive transportation services to all organizations which produce materials for shipment; to establish operational transportation control sections at those organizations; and to widely introduce automated control systems in the transportation process.

A great deal remains to be done to improve freight deliveries in intercity commerce, especially via the tractor-trailer system; and to significantly increase the volume of container and packet shipments, and boxing and crating of foodstuffs and industrial goods for shipment from wholesale facilities and industrial enterprises directly to the sales areas in the stores.

In 1986 the motor transport administration completed preparation of the vehicle fleet in a timely manner, and carried out mass shipment of newly-harvested agricultural products in a well-organized fashion.

At the same time there were incidents in which motor transport was late in arriving at sovkhoses and kolkhoses, and in which vehicle bodies were poorly prepared for hauling grain in bulk.

Certain motor transport administration did not support fulfillment of the established task for introducing kombi-trailer [sic] and batch shipment systems.

We must take these shortcomings into account and strive for steady improvement in transportation services to the entire agro-industrial complex; we must strengthen cooperative working relations between the motor transport administrations, kolkhoses and sovkhoses; and we must take exhaustive measures and use every means for widespread introduction of advanced methods for conducting harvest-transport and transport-procurement operations.

Fundamental improvements must be made in organizing the shipment of vegetables, potatoes and melon crops, and expanded use must be made of special containers and vehicles equipped with cranes for load handling.

With the adoption of the decree of the USSR Council of Ministers, "On the Transition to New Conditions for Managing General-Purpose Motor Transport Associations (Enterprises) and Organizations," vehicle operators have increased responsibility for ensuring high end results of their activities--fulfilling the shipment plan in accordance with contracted agreements.

In order to further increase the work effectiveness of motor transport and to completely eliminate registration of unfulfilled shipment volumes, in 1987 it is planned for everyone to switch a significant part of the truck drivers to the time-rate and bonus wage system, with standard tasks established, and to establish the indicator "paid auto-ton-hour" for the purpose of planning and evaluating the economic activity of the motor transport enterprises.

This is a very responsible measure, and a great deal of hard, painstaking work will be required to implement it.

Tasks for further improving the operation of passenger transportation found expression in the "Comprehensive Program for Developing Production of Consumer Goods and the Services Sphere for the Years 1986-1990."

The program has great significance for implementing the party's socio-economic policy. The measures stipulated in it are aimed at increasingly satisfying the growing demands of the workers for goods and services at a qualitatively new level.

All of this imposes increased responsibility on the state of affairs in the organization of passenger movement, and requires fundamental improvements in the operation of the collectives of bus and taxi enterprises.

Officials in passenger transportation must determine in a timely manner the reasons for the shortcomings in serving the public; must steadily strive for undeviating improvement in the standards of passenger transportation; and must take a conscientious attitude toward letters and complaints from the workers and critical articles in the press.

In order to more fully satisfy popular demand for bus and taxi transportation, transportation officials must strive more energetically to improve the regularity of connections, and must devote unflinching attention to organizing transportation for those who work shifts, by means of special routes, and by introducing express runs and direct routes. The operation of bus terminals and taxi stations, their condition, and the functioning of all their services, must be placed under constant supervision.

In a word, everything must be done in order to significantly improve passenger transportation, and to increase cash receipts from bus operations by no less than 10-15 percent.

Instances of extortion, bribe-taking, and misappropriation of funds are especially alarming.

Shortly after the decree of the CPSU Central Committee and USSR Council of Ministers "On Measures for Intensifying the Struggle with Unearned Income" was adopted, many instances came to light in which bus drivers on intercity routes had misappropriated funds; these instances occurred in the Ural, Aktyubinsk, Taldy-Kurgan, Tselinograd and Chimkent Passenger Administrations.

We must wage the most decisive, uncompromising struggle with such phenomena, which besmirch the entire system. First of all it is necessary to increase the level of educational work in the collectives, and assume more intensive control over the operation of buses and taxis on the line. Passenger volume must be studied in all areas for buses which go beyond the city limits; the state must establish planning procedures for the bus drivers' daily and duty shift assignments, and for personnel at cashier stations.

For every instance of misappropriation of funds and extortion, the evidence on the guilty parties is to be sent to the investigative authorities to make them liable to prosecution for their crimes.

Assuming more intensive control over the operation of passenger transportation, increasing the level of planning, and improving the route system are the basic directions for eliminating losses and for increasing the profitability of intercity bus transportation.

We must strive to make every intercity bus route profitable.

Fundamentally restructuring the organization of technical servicing and repair of the rolling stock, and staffing the motor transport enterprises with permanent driver and repair cadres are the most important problems today.

In spite of the fact that last year the index for putting trucks on-line increased, the level of this indicator remains extremely low.

Analysis and checks bear witness to the fact that the low indicators are permitted at enterprises where there is no clear-cut system for technical servicing; where periodicity is not observed; and work quality and completeness is not provided. This leads to the increase of repair orders and, naturally, to motor transport vehicles standing idle.

At the Aktyubinsk Motor Freight Administration, one-third of the trucks are standing idle, either in repairs or awaiting repair; at the Mangyshlak Administration, 33 percent are in this category; at Uralak, 27 percent; at Semipalatinsk, 28; Severo-Kazakhstan, 26; and at Kustanay Motor Freight Administration No 1, the figure is 25 percent. And the mechanical condition of the trailers remains unsatisfactory.

At the present time about 650 contract brigades have been created, although 633 were planned; of the 600 only 279 were established for technical servicing. However, in all about 300 collectives have been switched to the piece-work-bonus pay system, which is a labor incentive for repair personnel.

Insufficient attention is paid to bringing contract brigades up to strength at the Alma-Ata Oblast, Kustanay No 1 and No 2, Chirchik, and Severo-Kazakhstan freight enterprises; at the Aktyubinsk and Tselinograd passenger enterprises; and at the Guryev and Mangyshlak Motor Transport Administrations.

Being to the large cadre turnover and the low level of labor discipline, certain motor transport administrations permit vehicles to stand idle for long periods because of the lack of drivers.

The state of affairs at every motor transport enterprise must be looked into without delay, and specific measures outlined for increasing the level of mechanical readiness and for putting the rolling stock on-line. In the near future the mechanical readiness of the truck fleet must be brought to 0.85-0.87 (percent); and the KIF (possibly, ratio of use to down-time) of the vehicles up to 0.60 and greater; for trailers, to no less than 0.55; and the KIF for buses, to no less than 0.74.

Active work must be carried out to organize repair of the rolling stock during the between-shift periods, on a seven-day-a-week basis, and to strive to organize the work of the repairmen on a sliding scale.

Further improvement is required in increasing the workers' material interest in performing mechanical servicing and repair of the rolling stock on a high-quality and timely basis, and to place the brigade on an internal self-financing basis, with wages depending on the end results.

Special attention must be devoted to the overall mechanization of technical servicing of the vehicles; on establishing specialized repair stations and sections; on improving the organization and technology of repair operations; and on the fullest possible use of existing equipment and production spaces.

The Kazavtotransstekhnika (probably, Kazakhstani Motor Transport Equipment, Scientific Production Association, which has not yet fully completed its tasks for accelerating scientific-technical progress in the branch, must render significant assistance on these problems.

Greater attention must be devoted to developing the efficiency expert movement; to introduction of new technology; and to accomplish certification of workplaces in the near future. Competition must be more energetically pursued to increase the service life of the vehicles, and to enlist drivers in the movement for operating a single vehicle for its entire useful life. Thus, 68,000 drivers, or half of all the drivers in the branch, are taking part in increasing the number of trips between repair periods. This movement deserves universal support since those taking part in the competition have achieved savings of 14 million rubles on tires, fuel and resources for major repairs and spare parts.

Underestimating the value of work on metrological services to production is a serious shortcoming. The lack of responsible persons to conduct this work and the low demand are the reasons that at certain motor transport administrations, trucks are put on-line with defective and unscaled speedometers, which have not passed state inspection, and other defects.

One of the principal problems in improving the technical readiness of the vehicles is the assurance of high reliability of the production of the repair shops. However the quality of major overhauls of vehicles, parts and components continues to be extremely poor.

At the same time one should point out that the motor transport enterprises turn in vehicles for repair with such an accumulation of problems that they aren't fit to be repaired.

The top priority task for supervisors at auto repair works is to mobilize the labor collectives to increase the quality of their production by all means possible. In 1957 we must ensure that all engine repair shops restore the engines to the fullent. We must ensure that the products of poor workmanship do not pass through the gates of an enterprise, and do not reduce the operating effectiveness of motor transport. At the repair works, more energetic efforts must be made to improve the use of the production areas and equipment, to increase the return on investments, and to switch to two- and three-shift operation.

Along with solving the problems involved in putting the maximum number of trucks and trailers on-line, unflinching attention must be devoted to increasing the length of time vehicles are on duty, reducing empty runs and time spent standing idle, and increasing to the maximum the coefficient of vehicle load-carrying capacity.

Right now our task is to be more energetic in working with the clientele which we serve, in terms of increasing the number of shifts for receiving and dispatching shipments, and on this basis acting more boldly to put vehicle operations on a two-shift basis. And we must take a serious approach to document which projects are load-producers, and which are the consumers.

One serious factor which is retarding increased effectiveness in motor transport freight operations is the large number of trips made by the rolling stock with an load. Every percentage point of increase in empty trips within the ministry involves almost a 7,000,000-ruble increase in expenditures, and an 8,000-ton increase in motor vehicle fuel consumption.

Additional study must be made as soon as possible on the flow of freight in the area of operation of every motor transport enterprise, to find the routes for shipment which provide maximum advantageous use of the vehicles.

Measures should be taken to establish proper procedures in organizing operational planning for the work of the vehicle fleet; to use every means to carry out shipments along the most rational routes; to reduce empty trips by means of setting up new motor transport stops at major load-producing organizations; and to significantly improve the work of the control and dispatch points.

One of the most decisive trends is increasing the coefficient of effective use of vehicle load-carrying capacity.

We can successfully solve this problem by means of further expanding the employment of and improving the use of truck trailers. Calculations show that a truck-trailer combination with a single trailer provides--in comparison with operating the truck alone--savings of 7-8,000 liters of fuel per year; a 31-percent reduction in operating costs for shipments; and increased profits in the amount of 10,000 rubles.

The measures taken by the ministry for production of a trailer fleet and improving its use, last year permitted increasing the volume of freight shipments on truck-trailers by 13.2 percent, and brought the share of the freight turnover performed by trucks with trailers up to 46 percent.

However, this is hardly the ceiling, since there are significant reserves to be found in the organization of trailer use.

In order to further increase the volume of shipments loaded by trucks with trailers, organizational work must be stepped up to establish specialized repair facilities at all motor transport enterprises, and to refit diesel dump-trucks so that they may be used for towing trailers. Additional measures should be taken to improve the use of removable truck beds, and to increase the moral and material incentives for truck-trailer operators, repair workers, and foremen.

The branch is faced with responsible tasks for fundamentally improving the organization of major construction. One must frankly admit that many of our supervisors have become accustomed to chronic underutilization of allocated assets, and year and year out disrupt the plans for industrial and national-domestic construction.

Unconditional assimilation of capital investments must be assured. In addition, greater energy and initiative must be displayed in construction of industrial projects by means of loans from Gostank and Stroybank, and in putting on-line the resources for the technical retooling of the production facilities.

Questions of housing construction require special attention.

In all places we must strive to direct no less than 25-30 percent of the funds for socio-cultural measures to housing construction. In order to do this, it is necessary to take a more active approach to solving problems of providing material-technical resources to the construction sites.

We must also think about and when possible divert a portion of the assets of the "Transport" sector to housing construction. In a word, we must do everything so that by the year 1975 the housing problem will have been solved at every motor transport administration.

Additional measures must be taken to develop private subsidiary farming, and to strengthen their production base.

Questions of developing transportation-dispatching services to the public are becoming more urgent of late.

Last year the motor transport administrations were more active in conducting this work, and provided services worth 1.5 million rubles.

At the same time there are large shortcomings in the organization of transportation-dispatch services to the public. The needs of the public for shipping loads are not being fully met, and there have been a lot of complaints and criticism for not filling orders on time.

New types of services, such as taking orders by telephone and providing service to gardening and orchard cooperatives and subsidiary farms, are being introduced slowly.

A number of motor transport administrations are still fulfilling the plan by means of the services of budgeting organizations. As a result, the Alma-Ata Oblast, and the Dzhezkazgan, Karaganda, and Semipalatinsk motor transport administrations have reduced the percentage of ready cash in the overall volume of income, in comparison with 1985.

Conduct of loading and unloading operations when rendering domestic services remains a weak point in the organization of transportation-dispatch services to the public. The Kokchetav, Kyzyl-Orda, Chirchik, and Semipalatinsk motor freight administrations did not fulfill their task for this type of service. And there are serious shortcomings in the organization of advertising.

Domestic services to the public must be developed at an ever-increasing rate in the areas where major industrial centers are being formed, and in the rural areas; receipt and execution of orders must be organized at both the workplace and residence of the workers, during non-duty hours, as well as on Saturdays and Sundays. During the summer periods, problems must be solved everywhere in delivery of agricultural products to the city markets.

Special attention must be devoted to questions of increasing the quality and standard of service to the citizens, and not permitting disruptions to the scheduled times for services, nor delaying the introduction of progressive forms of service.

Questions of rational use of resources, ensuring significant growth in labor productivity, and savings in the wage fund, are becoming especially urgent under the new conditions.

However, at certain enterprises in the branch, labor and production discipline is still at a low level; significant losses of work time are permitted; and insufficient attention is devoted to questions of labor organization.

Last year there was increased non-productive loss of work time at the Guryev and Kokchetav motor freight administrations and at the Dzhezkazgan passenger administration.

A number of motor transport administrations have formally come to the realization of measures worked out in connection with the transition, since 1 January 1986, to the new management system.

Certain collectives have disrupted fulfillment of the plan for profits, or permitted its absolute decline. These include the drivers at the Kyzyl-Orda motor transport passenger combine, where there was a sharp increase in the operating costs for transportation, the Severo-Kazakhstan passenger and the Aktyubinsk and Vostochno-Kazakhstan freight administrations, and certain other branch subunits.

Implementing the comprehensive program for economies in fuel, energy, and other material resources, and for changing over the vehicle fleet to economical kinds of fuel, are considered especially important to the branch.

Last year the proportion of freight transport operations of the diesel fleet increased from 64 to 69 percent. More than 5,000 trucks, buses and taxis have been converted to liquified and compressed gas (probably LPG--liquified propane gas). In 1987 the fleet of vehicles equipped with [LPG] gas tanks will be expanded by another 1,000 units.

Vehicle operators are faced with a more than twofold increase in the volume of shipments using [LPG] gas-equipped transport. Supervisors at motor transport administrations must take immediate steps to install the existing gas-tank equipment and to put into operation all vehicles which run on liquified and compressed gas.

Increasing the mileage and service life of automobile tires is not a less-important task. Moreover, in recent years a certain difficulty has evolved in supplying the tires. Analysis indicates that if everyone introduced the proper procedures for use of tires, the annual requirement for them for the ministry as a whole can be reduced by a minimum of 10-15 percent.

At many enterprises insufficient attention is devoted to questions of economies in electrical and heating energy, and in fuel for boilers and furnaces.

We must fundamentally reevaluate our own work on economies in fuel and energy resources, and put them on an economical basis. We must strive to ensure that everyone knows the daily limits for consumption of resources in accordance with the amounts established for them; that everyone knows the methods for achieving the economies; that all the workers are personally accountable for the economies; and that the results of use of raw materials and supplies are promptly summed up at all locations.

A number of motor transport administrations still maintain abnormally large reserves of valuable commodities and materials.

These questions must be dealt with in detail, and the proper procedures instituted. Reduction of the abnormally large reserves is an important source for effective use of material resources.

The collectives of the motor transport and industrial enterprises are faced with great tasks in implementing the decrees of the CPSU Central Committee, USSR Council of Ministers, and the AUCCTU, "On Improving the Organization of Wages and Introducing New Wage and Salary Rates for Workers in the Industrial Branches of the National Economy."

It must be pointed out that the introduction of new wage and salary rates will first of all be made completely on the basis of the resources earned by the labor collectives themselves: that is, by virtue of economies in the wage fund.

The question of development rates for the national economy has always been and still is a central question in the party's economic policy. In this connection we must understand that increasing the returns from the basic production fund of the ministry by only 1 kopeck provides an additional income of 19 million rubles when calculated on a yearly basis.

Economic education must be given an important place in ideological-educational and economic activity, and in ensuring economies and thrift everywhere and in all things.

In the overall complex of measures on improving the economic mechanism, increasing production effectiveness, and accelerating scientific-technical progress, a great deal of attention should be devoted to further developing automated control systems for the branch.

In the light of the requirements of the 27th CPSU Congress we must take the most decisive measures to establish proper state procedures to ensure the security of socialist property, to eliminate gross exaggeration of unfilled shipment volumes, and distortions in accounting and reporting.

There are serious shortcomings in a number of motor transport administrations in the organization of monitoring and inspection work.

Inspections and checks are not carried out in a quality manner. Quite often after such checks, inspectors not assigned to the branch have established major shortcomings in financial and management activities, to include exaggeration of figures, distortion of state accounts, pilferage of socialist property, and maintaining more personnel than authorized.

Control over timely compensation for harm dealt to the state is also being administered poorly.

Thorough, comprehensive analysis must be made of the state of accounting and reporting and of the validity of the accounting data of subordinate enterprises and organizations; specific measures must be taken to fundamentally improve this work; and persons guilty of distortion of data, pilferage, and irrational use of material, labor and financial resources must be made strictly accountable for their actions.

The party's policy of intensification of production and acceleration of scientific-technical development requires that we increase the degree of the organizational and practical business nature of our work, and take all measures to strengthen state, labor and executive discipline in every production sector.

However, analysis indicates that a number of motor transport administrations and enterprises are not yet devoting proper attention to these questions.

The high accident rate is especially alarming. An increase in highway-transportation incidents was permitted in the Dzhambul freight administration; in the Pavlodar, Guryev, and Alma-Ata city passenger transportation administration; and in the Akt'yubinsk and Tselinograd passenger transportation administrations. The number of violations associated with the consumption of alcohol has not declined.

Exhaustive measures must be taken in the shortest possible time to eliminate existing shortcomings in the operation of all services and departments to forestall highway-transportation incidents. Stepping up administrative responsibility for violating Highway Traffic Regulations, and completely eliminating consumption of alcoholic beverages in motor transportation are to be considered the main directions in this work.

A complex of preventive measures to forestall accidents in motor transport must be worked out and implemented for every motor transport administrative and enterprise.

Serious shortcomings have been committed in the selection and assignment of cadres. Suffice it to say that over the last five years, 385 supervisors have been replaced in the Dzhambul and Kuchketov passenger administrations; and in the Turgay and Kaysl-Orda passenger transportation companies, all supervisors in the enterprise were replaced. And there is no let-up in the turnover of supervisory personnel in the Taldy-Korgan and Akt'yubinsk motor freight administrations.

The professional circumstantial level of specialists remains low in a number of motor transport administrations, and insufficient work is being carried out on creating a reserve to fill vacant positions.

One cannot remain silent in the face of such an attitude toward selection of personnel. Fainstaking work must be constantly carried out, directed at improving the qualitative makeup of supervisory and technical-engineering workers. We must strive to work out a clear-cut system for selecting personnel, and for establishing a promptable reserve for each motor transport administration.

A constant struggle must be waged for the purity of our cadres, and for strictly carrying out the party's instructions to combine confidence with demandingness, and to develop criticism and self-criticism.

Right now the efforts of the supervisors and all workers in the branch must be directed toward ensuring a businesslike and concrete approach to the evaluation of both successes and failures, and toward developing a plan of well-founded actions which would permit more successful fulfillment of our production tasks.

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QUALITY CONTROL ISSUES AT VEHICLE PRODUCTION FACILITIES

Efforts at ZIL Works

Moscow EKONOMICHESKAYA GAZETA in Russian No 8, Feb 87 pp 18-19

[Article including interview with Viktor Vladimirovich Zarubin, deputy supervisor for state acceptance at ZIL [Motor Vehicle Works imeni Likachev], by S. Tsoy and V. Veselov: "State Acceptance: Two Approaches: Allies"; first six paragraphs are editorial comment]

[Text] Moscow--The introduction of state acceptance of output is a graphic demonstration of the different approaches taken as the workforce assimilates modern management methods and approaches to their jobs.

By comprehending the tremendous importance of such measures as state acceptance, many collectives have done an excellent job of preparing themselves to work under the new management system. For them, it has not been altogether without difficulties but, as was noted by M. S. Gorbachev in his address to the January CPSU Central Committee Plenum, it is being done, labor discipline is being strengthened and output quality is improving.

But employees have also been found who, instead of rolling up their sleeves and setting to work on improving output, have slunk away from the stringent requirements of state acceptance.

As has already been reported, EKONOMICHESKAYA GAZETA has set up "quality control stations" in dozens of the country's enterprises which manufacture motor vehicles, state-of-the-art machine tools, agricultural machinery, mining equipment and consumer goods.

Today we are publishing some correspondence we obtained from these "quality control stations" at two enterprises which are closely connected by bonds of cooperation--the Moscow-based ZIL Production Association and the Balakovorezinotekhnika [Balakovo Industrial Rubber] Production Association.

These articles discuss the different ways the mutual relations of the plant personnel of these two enterprises came to be set up with the state acceptance personnel.

On the first day of 1987, dozens of ZIL motor vehicles failed to be accepted by the OTK [Technical Control Division] Service because of defects.

The above is not a misprint: ZIL motor vehicles were not sent to the customers because they were "vetoed" by the plant quality controllers. This shows how the introduction of state acceptance has affected the operation of plant technical control. And even though there is nothing good about the overly long period that the January frosts in the process stock yard shut down production of the trucks so sorely needed by the national economy, this episode says a lot. And it says the most about the way those employed by this motor vehicle manufacturing giant are changing their approach to evaluating quality, and the place of this evaluation alongside such categories as the plan and bonuses for fulfilling the plan. Here, we can see the visible manifestation of the steps being taken towards reorganization, the success of which, as was noted at the January Plenum of the CPSU Central Committee, is apparent in the effective and conscientious work of everyone, without exception.

This new approach is showing up not only in the tightening up of plant control. Since June of last year, a new system has been in effect for awarding bonuses to engineering and technical personnel involved in the administration of quality control. At present, they are paid bonuses only for the qualitative indicators of the subdivisions in which they are employed, but this is by no means true for the quantitative indicators. This has borne tangible results. The plant controllers have become more demanding with regard to slipshod workers. And the following is now happening: all the state acceptance representatives have to do is prepare to apply sanctions, and the Technical Control Division employees bring the conveyor to a halt. This happened, for example, in the wing where household refrigerators are manufactured. The introduction of the new bonus system also enhanced the prestige of the profession of Technical Control Division controller.

Even more important, however, is that the state acceptance representatives have come into close operational contact with the production workers. This has already taken place at the stage of preparations for the introduction of control outside the department. What form has this taken? This is the question which started off our conversation with Viktor Vladimirovich Zarubin, deputy supervisor for state acceptance at ZIL.

[Zarubin] Of course, one of our main problems was personnel-related. Acceptance work has to be done by highly skilled specialists who have an excellent knowledge of production and all of its "sore spots". The only place you'll ever find specialists like these is in a plant. I'd also like to mention that ZIL sent us its best workers.

We also worked closely with the services' engineers in checking out our larger subdivisions prior to the start-up of state acceptance. We made a joint study of the situation in the motor, body, fittings and assembly buildings and in the household refrigerator wing. We found many defects during the inspection: output was not being manufactured according to design, production flow charts were at variance with design requirements and normative and technical documents, supervisory operations were not being carried out and the technical

level of the measuring equipment was poor. Every inspection was authorized in a detailed formal document, and the plant's subdivisions, together with the technical services, developed schedule plans for measures to improve quality.

At the end of last year, we also conducted "optional" acceptance of motor vehicles, so that the plant workers could actually be made aware of the extent of exactingness required in the quality of their output and could deal with production bottlenecks earlier.

[Tsoy/Veselov] However, when acceptance was started, the initial results showed that not many people were ready to work under the new system.

[Zarubin] That's right. But one essential explanation is needed here. We feel that the main difficulty lies not in technical or production-related flaws, since they have been completely eliminated, and in a very short time, but in the attitude of many workers to quality. In fact the persistent stereotype of thinking in purely quantitative categories has been years in taking shape, and demolishing it is an extremely difficult affair. Thus, improving quality is essentially a personnel-related task, and its solution depends on the attitude of each ZIL worker, regardless of his job.

State acceptance representatives sensed this immediately, just as soon as they began sorting out and rejecting worthless products. Do you consider this a purely technical act? Nothing of the sort. In every case, we deal with the specific people who turn over products to us: Technical Control Division controllers, products-transfer workers and subdivision foremen and managers. It's not simply a matter of giving back a defective vehicle, but of finding a way of approaching people so that we do not become their enemies, and so that everyone senses clearly that there are no trolley-car ticket inspectors or people trying to ride for free here, and that there is a common task.

[Tsoy/Veselov] Are you succeeding?

[Zarubin] Not always. The easiest thing is the understanding we find in those production facilities which work even if only part-time for a specific client whom they know and with whom they have contacts. It was in places such as this that the state acceptance people soon found that they spoke the same language as the production workers. This is what happened in the three-axle vehicle shop. With no pressure at all, the shop management created the conditions necessary for our group to do its job, and what's more important, they welcomed our demands as fully just and workable. This is precisely the way the entire collective reacted. And I mean in their habit of doing high quality and responsible work, which habit has been inculcated by the exactingness of their clients.

The way state acceptance came to be in the two-axle vehicle shop is an altogether different matter. The examiners' workplaces were not set up there until mid-January and the percent of output turned in since the first submittal is increasing only slowly. By and large, the reorganization has just begun.

[Tsoy/Veselov] How is state acceptance set up at ZIL?

[Zarubin] Like everywhere else, but there are some special features. These features stem from ZIL's complete orientation to the human factor. Compare these figures. There are 126 persons on the state acceptance staff. The plant's quality control people number over 2,000. There are highly energetic specialized services staffed by people with scientific degrees. This tremendous force can discover and correct any flaw in the technical field, and can carry out measures of a high degree of technical complexity.

For example, ZIL plans to put a unique complex of aeroclimatic motor vehicle tests into operation in the immediate future. This facility's chambers will be used to examine motor vehicles in a variety of climatic conditions. The aeroclimatic test complex will give ZIL designers broad creative scope to develop new motor vehicles which will be equal in their characteristics to the world's best models.

There is no point in our turning into a pale shadow of the plant's technical and production staff. Our task is that of influencing them so that they can more efficiently solve the problem of improving output quality. How is this to be done? Working in tandem with the ZIL management, we sorted through a number of different alternatives and stopped at the one which has now been put into effect, i.e., 100 percent inspection of all motor vehicles and acceptance of finished output following thorough inspection.

The solution to this problem can seem arguable--in fact they usually resort to random sample, so-called statistical acceptance verification. It is incomparably less labor intensive, but in return it has one negative property of a purely psychological character: it has little power to convince those production workers who have never had dealings with it. Where is the fairness in inspecting one vehicle and rejecting five? And what if the remaining trucks are completely fit? Faultless (from the scientific standpoint) arguments in favor of the statistical method will hardly help here.

Meanwhile, the decisions made by state acceptance personnel, if they are to completely fulfill their educative role, must be incontestably authoritative in the eyes of the motor vehicle builders. Only when they are firmly convinced that, on the one hand state acceptance representatives are conducting their inspections objectively, and on the other hand are not allowing a single defect to get past, can a serious attitude to quality be anticipated.

We consider this to be a correct attitude, and one which has already been corroborated in practice.

[Tsoy/Veselov] Low quality output is frequently justified by references to poor work done by related sectors. What do the state acceptance personnel at ZIL do when this occurs?

[Zarubin] Why, an association has the same problem that no doubt exists everywhere else. Thus, the Balakovo Industrial Rubber Products Plant sends 108 different parts and accessory items to ZIL. A large part of this output

has to be sent back because of glaring defects. What's to be done? In essence, ZIL personnel have set up incoming control of the output earmarked for them right in the Balakovo plant. The association's state acceptance personnel are setting up ties with their colleagues at this allied enterprise; that is, they are trying to strengthen their contacts for joint operation and have already had some initial results. However, I would keep my ears tuned anyway, to see how the plant collective plans to improve the quality of their output.

[Tsoy/Veselov] Are you encountering any difficulties in the state acceptance work itself?

[Zarubin] Some. It's not easy to monitor the quality of finished products on a moving conveyer. What's more, sometimes it's necessary to work overtime. That's why you find mostly younger inspection engineers working in the assembly building. They show a genuine enthusiasm for their duties, and are not clock-watchers. Now here's the bad news: as the rules now stand, the engineering and technical personnel don't receive overtime pay, but are granted compensatory time instead. Some of the state acceptance people have already accumulated 15-20 "comp-time" days each, but they simply can't take them without causing serious harm to the work we're doing.

Gosstandart [State Committee for Standards] needs to take a look at this situation. It would be a shame if people started leaving state acceptance work.

[Tsoy/Veselov] One last question. What are the immediate plans for state acceptance work at ZIL?

[Zarubin] First, we plan to completely finish forming workers' groups. Once again, this is a personnel problem. We have to have 12 of these groups. They will have an extremely wide range of activities, from receiving parts in the procurement works to checking design and technical documentation and analyzing incoming complaints and any defects which come to light. In other words, we have to get even more deeply involved in production and have an influence on all its links. If we don't, we won't even come close to the main objective of state acceptance work, which is not only to give all the help possible to improve the quality of the products we manufacture, but to raise their technical level as well.

ZIL will soon be manufacturing new trucks, powered by diesel engines. We will have to assemble thousands of these vehicles this year. And a great deal depends on how smoothly the work of the extra-departmental inspection personnel and the workers employed by the motor vehicle plant progresses, whether the hoods of the new vehicles will or will not bear the honorable five-pointed Quality Mark, which a major portion of ZIL-manufactured products carry these days.

Balakovo Parts Plant

Moscow EKONOMICHESKAYA GAZETA in Russian No 8, Feb 87 pp 18-19

[Article by S. Terekhov, chief, State Inspection Department, Volga-Vyatka Center for Standardization and Metrology: "And There Were Still Imperfections..."]

[Text] Gorkiy--Preparations for the introduction of state acceptance are proceeding slowly at the Gorkiy Motor Vehicle Works.

Complaints are coming in from Armenia about the poor quality of the spare parts for Gorkiy Motor Vehicle Works' products. Reports of frequent radiator breakdowns are coming in from the Bashkir ASSR. The stream of complaints from owners of Volga passenger cars, particularly the latest model--the 24/10--shows no sign of abating.

In response, the Gorkiy Motor Vehicle Works alludes to the poor quality of the parts they receive. And this is certainly a valid complaint.

Recently, along with representatives of the USSR People's Control Committee, we inspected the Avtodvigatel Association located near the Volga. This is the production association which manufactures the motors for GAZ-53, GAZ-66, PAZ [Pavlovo Bus Works] and Volga motor vehicles. In individual lots, over 60 percent of the parts turned over for assembly operations were manufactured with a variety of deviations from the designs. And in 1986, around a million rubles of unlawfully overcharged profits were withdrawn from Avtodvigatel for flagrant violations of design and production and executive discipline. Three engine models were not allowed to bear the State Quality Mark because they fail to meet present-day requirements.

Major economic sanctions have been brought against the Iyskovo Electrical Equipment Plant, which supplies motor vehicle horns and flexible shafts. Material action had to be taken against the managers of the Krasnaya Etna as well, for sending out carelessly-executed standard motor vehicle designs.

But don't the GAZ employees who are responsible for incoming control also share the blame for this? They have displayed a lack of principle in their relations with their allied motor vehicle workers, and high quality has never needed forgiveness.

Nor have the shops or sections of the Gorkiy Motor Vehicle Works itself devised any real protection against defects. During one of the inspections conducted by representatives of the USSR People's Control Committee and our center, 52 out of 77 parts had to be returned so defects could be corrected. It should be pointed out that most of the problems were eliminated right away, and this indicates that employees of the association and the Technical Control Division's inspectors were used to such violations and had failed to do anything about getting rid of them.

As is well known, a large-scale works is being built to manufacture diesel dumping trailer trucks, which are supposed to be on the country's roads during this five-year plan period. Concern must be given to the quality of the machines even before the manufacturing section is put into operation. But I'm not yet aware of any such thing. The rigid requirements for the materials and labor intensiveness of the products, for fuel consumption or other characteristics were not made part of the appropriate sections of the technical target on time.

The interdepartmental acceptance commission, of course, was not informed of these imperfections and so recommended that the above-mentioned trailer truck be manufactured. Nor have even the glaring imperfections which were noticed by one and all at the NAMI [Central Motor Vehicle and Engine Scientific Research Institute] Testing Ground near Moscow been eliminated, or they are being eliminated extremely slowly.

GAZ Works Problems

Moscow EKONOMICHESKAYA GAZETA in Russian No 8, Feb 87 pp 18-19

[Article by V. Ulyanov, EKONOMICHESKAYA GAZETA correspondent: "Conflict"]

[Text] Balakovo (Saratov Oblast)--The Balakovorezinotekhnika [Balakovo Industrial Rubber] Production Association is the main supplier of industrial rubber products to motor vehicle industry enterprises.

This association manufactures the lion's share of the rubber parts used by VAZ [Volga Motor Works] and KamAZ [Kama Motor Vehicle works], and manufactures extremely complex and vital parts for GAZ [Gorkiy Motor Vehicle Works], AZLK [Moscow Motor Vehicle Works imeni Lenin Komsomol] and other production facilities. That is why its fellow enterprises turned out to be in such a difficult position when the state acceptance inspectors failed to accept almost R2 million of its products in November and December of last year.

Nor did the situation improve any in January. Many of the association's shops, to whom the state acceptance people sent back individual batches of parts for reworking some four and five times each, are underproducing by over a quarter of their plan output target volumes. This has drastically worsened the economic indicators for the work done by the enterprise, has reduced labor productivity and as a result has reduced the wages of those producing the defective output.

In a situation as complex as this, self-critical analysis of each section's system is more important than ever. Output quality depends both on workers' brigades and on engineering services.

How do the enterprise's managers and employees feel about the serious shortcomings uncovered by the state acceptance committee? In the final analysis, this is the factor which will determine the success of the struggle against defective output, and to improve quality. As it turns out, some incorrect conclusions have been drawn within the association. They have a supersensitive attitude to the state acceptance committee's criticisms.

"Our work is surrounded by a blank wall of distrust," says Deputy Manager of the State Acceptance Committee A. Solomonenko. "The enterprise's management sees extradepartmental inspection as a short-term phenomenon and on this basis are not taking the necessary steps to improve output quality."

V. Yelovikov, chief engineer of Balakovorezinotekhnika, assesses the events which have occurred altogether differently:

"As things now stand, the production methods used in the enterprise preclude our manufacturing output which completely complies with the requirements in the normative and technical documentation. A certain amount of time is needed to correct this matter. We were depending on the state acceptance committee's becoming our active helper in setting up a state-of-the-art technical base. However, in practice all its activities amounted to rejecting products with external defects which do not effect the products' operational characteristics in the least. We feel that we should be allowed to keep on manufacturing these products while the enterprise is being re-equipped.

The association and the state acceptance committee got into a protracted conflict.

It was not by chance that tempers flared. The enterprise had too long been oriented around quantitative indicators. The habit of postponing the solving of critical current and long-term problems, which habit has become ingrained both within the enterprise and within the sectorial headquarters, has made it impossible to set up a sufficiently stable base for re-equipping the sector here, to bring the production capacities up to full strength with modern equipment or to attain satisfactory quality of our raw materials and smoothness in their deliveries. This is why the state acceptance committee's demands caught the association napping.

Some 45 percent of the output manufactured by the association comes from the moulding works, where quality is totally dependent on the condition of the machine-tool attachments. All during the last five-year plan period, the engineering services talked about the difficulties associated with upgrading the mould press inventory, as well as the problems of rebuilding and cleaning them, but they too failed to take realistic steps to rectify the situation. As a result, about 70 percent of the attachments need to be replaced or repaired today. Worn-out mould presses do not provide the manufactured articles with the prescribed geometrical parameters, and this causes mass defects. Thus, at the second RTI [industrial rubber products] plant, this is exactly what caused the great volume of defective output in 124 products used in making up the motor vehicles manufactured at the Kama Motor Vehicle Works. From 15 to 30 percent of the cylinder wheels, monoblock units and engine head gaskets are rejected as defective. This is precisely the reason the extradepartmental inspectors were forced to stop accepting the packing glands which are in such short supply in the motor vehicle industry.

In due time, the Polimerzapchast [Polymer Spare Parts] Plant, which specializes in the manufacture of attachments and optional equipment, joined the association. Growth in Polimerzapchast's capacities could to a considerable degree meet the needs of Balakovorezinotekhnika right now, as its

production volumes increase. However, in pursuing departmental interests, USSR Minneftekhimprom [Ministry of the Petroleum Refining and Petrochemical Industry] has entrusted the manufacture of mould presses to the client plants, and Polimerzapchast has been transferred to a different main administration.

The ministry's estimate has not turned out to be true. The resultant effect was just the opposite. Having undertaken to perform these unusual tasks, the clients are not meeting their targets for tooling renovation. Suffering from a lack of efficient leadership, Polimerzapchast is allowing almost a third of its production capacities to go unused. In the situation which has been created, Minneftekhimprom apparently intends to review this enterprise's "order book" for the benefit of the Balakovorezinothkhnika Production Association.

Another way to improve the tooling situation is by reducing the number of types of tooling attachments in the press mould turnover by standardizing the rubber parts built into the design of new motor vehicles. Every year, the association initiates production of approximately 140 original types of products requiring special tooling. In addition to the 2,700 products which are now being manufactured, there are plans to put another 1,200 into production in the next 7 years. The vastness of this products array is explained primarily by the fact that Minavtoprom does practically no coordination of the work done by the designers in the various plants in the country. As a result, only 9 percent of the rubber parts made in the domestic motor vehicle building industry have been standardized, whereas American corporations, for example, standardize 70 percent. This negative trend continues to intensify. At most, 4 percent of the rubber parts used in the latest AZLK, VAZ, ZIL and GAZ models have been standardized. The continued swelling of the inventory of attachments is jeopardizing the interests of the motor vehicle builders themselves. But Minavtoprom, which is supposed to be in charge of the sector's technical policy, acts as if this is not its concern.

Output quality in the petrochemical industry depends directly on the stability of manufacturing processes. Meanwhile, last December at the association's second industrial rubber products plant alone, more than a thousand production breakdowns were recorded, and the engineering services took measures to eliminate only one-third of them. What has caused this state of affairs?

Several years ago, following the example of VAZ, the association centralized its production service. It was assumed that the efforts of the process engineers who were taken from the shop staffs would be actively aimed at eliminating the breakdowns which periodically occur in production. Counting on the work of the centralized service to be highly efficient, the enterprise's management greatly curtailed the number of process engineers. But these good intentions were not destined to be realized. Having adopted the external organizational procedures of the VAZ system, Balakovo did not know how to put its virtues into practice.

First, they failed to teach the line engineering personnel from the shops to carry out production processes. Second, the process engineers lost their former influence in the shops. At present they have been granted the right

merely to make recommendations concerning the elimination of flaws in carrying out these processes, and bear practically no responsibility for the state of affairs in the production sections. All of this has led to a drastic slackening of production discipline. The association's managers are now thinking of returning to the former disposition of the labor force. But this by itself is apparently not enough. The association's engineers have gotten too accustomed to blaming their troubles on difficulties which are not in their power to control, on their inability to overcome these difficulties by themselves and on obsolete equipment, while displaying no creative initiative of their own.

There's no denying it, the equipment no longer meets today's requirements. Some 60 percent of this equipment has been in operation in the association's shops over 15 years. A check of the technological accuracy of the capacities in the first industrial rubber products plant, which is thought of as the sector's standard for tooling, confirmed the wear and obsolescence of the equipment installed here, the depreciation period of which has already run out.

The question of replacing the equipment in the first industrial rubber products plant has been brought up more than once in the sectorial headquarters. However, no affirmative decision has yet been made. During the course of three five-year plan periods Minneftekhimprom has in essence failed to carry out any tasks related to designing or manufacturing this type of equipment.

At the present time the industrial rubber products enterprises are provided with equipment by their main client, Minavtoprom, who manufactures it in its own enterprises or purchases it abroad. For example, in preparing to manufacture the next Zhiguli models, the Volga Motor Vehicle Works purchased a batch of presses for Balakovorezinotekhnika last year at a cost of R6 million. By the way, they have not yet been set up for operation. But the problem will never be solved by placing technological innovations here and there in individual sections of what is essentially an obsolete production facility. What is needed is a thoroughgoing renovation of all the equipment, and this cannot be postponed. However, to everyone's surprise, the members of the sector's headquarters staff have a passive attitude to this urgent problem.

This very same passivity is rearing its languid head as well in the work the association itself is doing with the related enterprises which supply its raw materials. Some of them are sending materials, the quality of which could not stand up to criticism of any sort. The Yefremov Synthetic Rubber Plant, the Nairit Scientific Production Association in Yerevan, The Syzran Industrial Carbon Plant and the Karbid Production Association in Temirtau, all deviate considerably from the All-Union State Standards in as much as 50 percent of their shipments. How does the association's management feel about all this? Have they displayed high-mindedness? Have they made their requirements for raw materials more stringent? On the contrary. They are compromising by producing components which fail to fully meet the requirements of their manufacturing processes. Thus, last year there were 275 instances of their accepting non-standard raw materials. Of course, the quality of their products plummeted.

The lack of coordinated actions between USSR Minkhimprom [Ministry of the Chemical Industry] and USSR Minneftekhimprom has led to a situation wherein about a third of the raw materials which the association could have used are presently being purchased abroad, and very few of the developments at our disposal are being introduced into production.

Ten years ago the Tambovskiy Scientific Research Institute of Chemical Polymers came out with an experimental batch of antideteriorants designed to improve the resistance of industrial rubber products to heat. At approximately the same time, the Nizhnetagilskiy Oil Refinery had developed an antideteriorant compound aimed at improving the resistance to cold of rubber products. These chemical components, which were sorely needed by our domestic motor vehicle-building industry were successfully tested at Balakovo, but their industrial production has not yet been organized. The NIIRP [Scientific Research Institute of the Rubber Industry] is behind schedule in its development of a number of critical materials used in the manufacture of articles of a higher technical level.

For now, most of the extradepartmental inspection personnel in the association have been concentrated in the finishing operations. There is still too little emphasis on supervision of the state of production, raw materials quality or of raising the technical level of output.

Meanwhile, as we have seen, Balakovo still has to solve a number of serious problems if it is to provide motor vehicle works with a steady supply of high quality rubber products. The association managers must solve these problems quickly and must do so along with their associates in related industries, with their customers and with ministry employees, and they will doubtless have to rely on the enterprise collectives and on the help of the skilled state acceptance labor force.

In a situation such as this, the conflict which has flared up between the state acceptance employees and the association management is entirely inappropriate. It can do nothing to ameliorate the situation. It can only make worse a situation that is difficult enough without it.

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BRIEFS

GAZ-3307 TRUCK PRODUCTION--Gorkiy--The Gorkiy Motor Vehicle Works is gearing up for production of its new GAZ-3307 truck, plant tests of which were successfully concluded recently. The GAZ-53-12, which has been rolling off the conveyor for many years, has proven itself a fine truck. Suffice it to say that right now, 7 out of every ten trucks in use in the country's agricultural sector bear the GAZ trademark. The basic model needs to be upgraded. But instead, it has been decided to manufacture the new GAZ-3307 model truck. The distinguishing feature of this truck is its standardized cab, which now meets the most stringent requirements and provides the driver with a great deal of comfort in his work. The truck has a more convenient instrument panel, individual seats and greatly improved visibility. Thanks to its airtightness, the cab will be much warmer in the cold of winter and less dust will enter when the truck is driven on country roads. The new truck has the added benefits of more economical and durable operation. Thus, it will run for 300,000 km before needing a major overhaul. If the truck formerly used 20.8 liters of fuel to travel 100 km, it now covers the same distance on only 19.6 liters. The truck is equipped with a 120 hp engine and has a carrying capacity of 4.5 t. The Works is simultaneously producing specially-designed models of this truck for use in the North. In addition, dumptrucks and compressed gas trucks are to be produced based on this model. [by A. Yershov IZVESTIYA correspondent] [Text] [Moscow IZVESTIYA in Russian 27 Dec 86 p 1] 12659

SAVR-3 ACV TRANSPORT PRODUCTION--Yoshkar-Ola--Members of the student design bureau of the Mari ASSR Polytechnical Institute imeni M. Gorkiy have developed a line of unusual all-country vehicles. All the vehicles have been consolidated into one, and they all ride on a cushion of air. The SAVR-1 [self-propelled unit, all-country type] was tested successfully in Western Siberia. It was a self-propelled unit intended for use by oil and gas industry workers. A related vehicle--the SAVR-2--provided a great deal of help to the fishermen of the Yamal Peninsula and Arctic regions. The machine is equal to any roadless area. The third SAVR is to be used as a duty-shift bus. It can carry 20 workers or 3 t of freight out to the oil and gas pipelines. The USSR Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] Interdepartmental State Commission recently recommended that the SAVR-3 be put into industrial production. [by Ye. Bragilevskaya] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 30 Dec 86 p 6] 12659

NEW ILI RIVER BRIDGE--Alma-Ata--Seven months before the planned deadline, construction workers of Bridge-Building Detachment No 25 have turned over for operation a bridge over the largest of the Seven Rivers, the Ili. Until recently, A. Popov's brigade worked around the clock on this project. The bridge has joined riverbanks in two rayons--the Balkhashskiy and the Kurtinskiy. The opening of this bridge for traffic has reduced the overland distances between some of the rural population centers separated by water barriers by hundreds of km. [by V. Yelufimov] [Text] [Moscow SELSKAYA ZHIZN in Russian 31 Dec 86 p 1] 12659

KURSK LNG FILLING STATIONS--Kursk--The second AGNKS [motor vehicle compressed gas storage station] has been put into operation in Kursk. Kursk's motorists are among the first in the Central Black Earth Zone to begin running their trucks on gas instead of gasoline. The first hundred vehicles of the City Municipal Services Department of the Kurskvotrans [Kursk Motor Transport] Association's Kurskoblgaz [Kursk Oblast Gas] Administration have been converted to compressed gas operation. And with the opening of the first AGNKS in the middle of this year, motor vehicles began to be converted to natural gas operation. As Kurskvotrans Department Chief I. Zadorozhnyy recounted, "There are already some 450 trucks operating on natural gas in our association alone. We are equipping some of our vehicles with compressed gas tanks at the Voronezh Pilot Experimental Plant, which is part of Minavtotrans, and some of them are so equipped at the Gorkiy Motor Vehicle Works and at the Moscow Motor Vehicle Works imeni Likachev. Over 1,000 Kurskvotrans trucks will have been converted to gas by the end of the current five-year plan period." Construction of the third AGNKS is underway in Kursk. Plans also call for several of these stations to be built in the oblast's rayon centers. This will substantially extend the range of those vehicles operating on natural gas. [by V. Kulagin] [Text] [Moscow IZVESTIYA in Russian 30 Dec 86 p 1] 12659

ROKSKIY TUNNEL OPEN--Tbilisi--Of late, one event in the life of the majestic Old Man--the Main Caucasus Mountain Range--has crowded out all else. The motor vehicle tunnel, one of the country's largest, which passes beneath the Roksiy Pass, has just been put into operation. Situated in a high-elevation (2,100 m above sea level) mountainous area, the tunnel provides continuity and convenience in communication with two-way traffic, and has been equipped with a powerful ventilator system and television cameras to monitor the traffic. The attractive and reliable northern and southern tunnel entries are protected by a basalt rock face. Thus, the basic link in the highway connecting the Transcaucasus with the RSFSR has been finished. [by T. Chanturiya] [Text] [Moscow IZVESTIYA in Russian 2 Jan 87 p 1] 12659

NEW ROADS NEAR KIROV--Kirov--Recently a new bus route has linked the city of Kirov with the most remote and out-of-the-way Murashinskiy Rayon. This is thanks to the 24.5 km Yurya-Murashi highway's having been put into operation at the end of last year. Even prior to that, road construction workers of the Komi ASSR laid an asphalt road to their neighbors in the Murashinskiy Rayon. Thus, a throughway has now been opened for motor vehicle traffic from Syktyvkar to Kirov and from there, one can travel along the existing republican superhighway to Gorkiy and Moscow. Plans call for regular bus service to begin on the 400-km Kirov-Syktyvkar quite soon. This will make it

possible for passengers to get to the end point some 10 hours sooner than is presently possible on the railroad. [by A. Yershov, IZVESTIYA correspondent]
[Text] [Moscow IZVESTIYA in Russian 21 Jan 87 p 1] 12659

NEW TROLLEY BUS MOTOR—The Second Trolley Bus Fleet began preparations to test a new motor today. The motor was developed by the Dinamo Plant and has been installed in series models of the model ZIU682B1 trolley bus, manufactured by the M. S. Uritskiy Works. The motor design incorporates new materials, which boost its power and durability. The new standard-sized motors are suitable both for installation in the vehicles which are now operating in fleets, as well as in vehicles in series production. Tests of a trolley bus equipped with an 8-ton ballast are underway on the municipal trolley lines. [Text]
[Moscow VECHERNYAYA MOSKVA in Russian 26 Jan 87 p 1] 12659

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STRUCTURAL, FUNDING CHANGES URGED FOR MARITIME S&T WORK

Moscow VODNYI TRANSPORT in Russian 22 Jan 87 pp 1, 3

[Article by G. Filev, chief specialist from Lennormiiprojekt [Leningrad State Planning, Design, and Scientific-Research Institute of Marine Transport], an affiliate of Soyuzmorniiprojekt [All-Union Marine Scientific-Research Institute of Marine Transport], and M. Sverdlov, acting chief, Baltic Shipping Company's Planning and Economic Department under "Improving the Administrative System" rubric: "A Guaranteed Yield, or Will the Shipping Company Purchase Scientific Ideas Under a System of Full Cost-Accounting and Self-Financing?"]

[Text] Until recently, this question would have sounded absurd at the very least, since year in and year out the shipping companies of the MMF [USSR Ministry of the Maritime Fleet] have duly allotted a portion of their profits to the YeFRNT [Unified Scientific and Technical Development Fund]. The MMF Scientific and Technical Administration divided the YeFRNT among the MMF administrations and all-union associations who are clients for scientific research and drawing-designing work, and these "customers" distributed the funds among their own subdivisions within the sectorial scientific research institutes and design bureaus, which then returned to the shipping companies, in the form of instructions, regulations and guiding documents, and sometimes in the form of prototypes of new equipment or advanced production methods, the funds the companies had laid out for science.

Within the sector, life on the crest of scientific and technical progress has been seething and boiling: the "customers" have used up all the additional funds and the scientific research institutes and design bureaus have willingly taken on some of the functions usually handled by the administrative staff for these funds, and in so doing have become skilled at analyzing the situation which has come about in the diocese of the "customer", and working out recommendations to improve it, and the MMF's shipping companies have shelved the scientific recommendations and have transferred the economic incentive funds to science and to themselves as well. All the production units have taken upon themselves additional obligations for accelerating scientific and technical progress, for reducing the science-to-industry cycle, for increasing the guaranteed, anticipated, planned and estimated (where it has already reached the level of the actual) economic effect and its other forms, have

fought hard to earn the title "The Collective of High-Caliber Production", and have successfully met their target for harvesting of territory and giving help to sovkhoses under their patronage and so on and so forth.

Not everything has run smoothly in this "life on the crest". When the shipping companies, which have thrown themselves completely into their endless and stormy sea of recommendations, instructions, regulations, norms, quotas and rules issuing forth from the pen of science, were required to put an end to their financing of registered scientific organizations, intelligent scientific minds quickly raised dozens of walls, in the form of sectorial scientific and technical, and goal-oriented integrated programs, to hold back the sea of recommendations and obligations. Having reported on the changeover from financing scientific organizations to the financing of scientific and technical problems and programs, all the production units have become occupied with the usual thing: those in science, with scribbling, and the shipping companies, with storing up scientific output. (The scientists of only five of Soyuzmorniprojekt's scientific organizations plan, during the 12th Five-Year Plan period, to turn over to MMF shipping companies 52 new developments, and to review 84 old normative acts each [RD and RND--not further identified]).

And suddenly the usual rhythm of the free life in science and "on the crest" of scientific and technical progress in general, was disrupted. First, at the April 1985 Plenum and then at the 27th CPSU Congress, the sector's scientific work was said to be unsatisfactory. The reorganization of the structure of the sectorial scientific research institutes and design bureaus which followed this conclusion was brought to a halt because of the adoption of the decision to change the entire Ministry of the Maritime Fleet sector over to full cost accounting and self-financing.

What is the significance of this decision for this sector's science? Mainly, it means that it is not the Unified Scientific and Technical Development Fund which will finance the sectors scientific research institutes and design bureaus, but MMF shipping companies' funds for development of production, science and technology. Only the least possible amount of scientific research work and drawing and designing work will be financed, and this will be done, as before, on a centralized basis, from what is now the ministry's "reserve fund". This means that the very MMF shipping companies which have been trying unsuccessfully for many years to get away from generating paperwork from sectorial science are themselves to be the primary "customers" for both scientific research work and drawing and designing work.

In conditions such as these, the question of whether or not the shipping companies have any need for science takes on not a rhetorical, but a fully real sense, since its answer is totally obvious: the MMF's shipping companies have no need for the research and developments which have been brought up from the depths for years by sectorial science, and as of 1 January 1987, will no longer be financing them.

So how then will science occupy itself? Based on the logic of the present-day need to solve the problems associated with speeding up scientific and technical progress, the answer suggests itself: the sectorial scientific research institutes and design bureaus must be reorganized with utmost

dispatch and changed over to the production of scientific output whose technical and economic parameters equal or exceed the world scientific and technical level, which output holds promise for practically tangible and verifiable growth corroborated by factual data and which holds promise for repeatedly increased labor productivity, reduced prime cost for output (services) etc.

Does this mean that MMF shipping companies will now be ordering trailblazing developments from the scientific research institutes and design bureaus? Unfortunately no, as self-financing shipping companies have no need for trailblazing developments either, since because of the limits placed on the assets in the FRPNT [Production, Science and Technology Development Fund], the shipping companies will most often act in accordance with the principle that "a bird in the hand is worth two in the bush". The scientists' pioneering ideas are like the birds in the bush, since no one (even those who themselves develop the ideas) can guarantee that they will be implemented within assigned deadlines or that they will possess the required parameters.

If we take into account that radically new (pioneering) ideas are, more than anything else, complicated operations which take years and a great deal of costly research and experiments, then it is easy to understand that it is doubtful that the shipping companies will agree to "advance science" at their own expense and risk large amounts of their own financial assets gambling on the future when they can put these assets to good use right now, for example, for road repairs, to purchase machines and equipment to develop subsidiary farms, acquire licenses, ships, navigation equipment, new equipment or instruments, or for planning or constructing new facilities, for retooling, renovation or expansion, since as of 1 January 1987 these measures and this science will be financed from a single source--the Production, Science and Technology Development Fund.

What's more, it's getting not only risky, but economically unprofitable as well to order the scientific sector to work on serious developments for MMF shipping companies.

Shipping companies, which no longer act only as customers but as "primary promotion enterprises" as well, pay, as we know, most of the costs for developing an innovation, promoting it, building a prototype, paying the inventor's commission and so forth. At the same time, any promotion enterprise that comes along later can obtain the technical specifications for the innovation (which have already been refined through experiments) at practically no cost, and as a result can, at minimum expense, expand its own economic incentive funds. And if before now MMF shipping companies gave no special consideration to the money they spent on scientific research work and drawing and designing work, since the money couldn't be used for anything else, nowadays every ruble from the "production, science and technology development fund" will be scrupulously accounted for from the standpoint of "investing capital for the greatest profit".

Thus, the shipping companies of the MMF need neither "old" or "new" science, and this is why no matter what manner of organizational restructuring we propose today within the network of the MMF's scientific research institutes

and design bureaus, the scientists' fate has already been decided--they can either pack their bags, or else depend on "specialists" with a highly developed economic acumen being discovered within the ministry, who will be guided by today's, rather than future tasks, who will, in the guise of science, suggest that the scientists "make the plan" by expanding production bottlenecks and who will rely on the sectorial system's central administrative organ for accelerating scientific and technical progress (Ministry of the Maritime Fleet's Scientific and Technical Administration) and the supervisory organs (for example the National Control Committee), "not noticing" this substitution.

Such is the logic of the mutual relations between science and production as MMF enterprises and organizations change over to full cost-accounting and self-financing. One can argue about individual elements of these mutual relations, there can be no disagreement concerning the final results awaiting science as it is integrated with production under the new system of economic management.

The sector's scientific research institutes and design bureaus are not only and not so much workplaces for large groups of ministry employees who are threatened by disqualification, as scientists, or by loss of their workplaces; industrial science is the primary task-setting and motive link in the system for accelerating scientific and technical progress in maritime transport. Should this science operate less than efficiently, the work done by the successive links--the ports and SRZ's [ship-repair yards] of the MMF shipping companies will sooner or later come to an end because of failure, since with the strict competitive struggle which is anticipated in both the domestic and the foreign marketplace they will inevitably, without the help of science, suffer economic defeat because of their lagging behind in technology, production methods and in the manner in which labor and production are organized. That is why no slump must be allowed in the sector's accumulated scientific potential, which must not be allowed to be drained off from the initial link in the science-production chain to the successive links.

It is quite obvious that one thing is needed for this to occur: science needs to be provided, in its relation to self-financing shipping companies, with conditions adequate for it to exist. As this occurs, it will retain its specific, distinctive feature, i.e., its potential to "work" for a general consumer as opposed to working for one or two enterprises, as is done in a great many of the national economy's sectors, where science has been made part of a scientific production association and is connected with the production of a unified production process.

What sort of conditions are meant here exactly, if we cannot use the experience of the Togliatti and Sumi associations as a basis in view of the fact that their subdivisions are amalgamated for the use of a restricted consumer--their in-house production?

The new conditions in which science must function have been determined by a great many radically new specific factors, the effect of which on those participating in the science-industry chain becomes decisive as the sector changes over to self-financing. If we forge these factors into a consistent

logical chain, we derive the following general picture of the work done by the industrial scientific research institutes and design bureaus under the new management system.

1. The "client"--that is, the MMF shipping companies which order the scientific research work and the drawing and designing work pays its debts, not from outside (from the state), but from its own pocket. This is why it will finance scientific work with the minimum degree of risk and in a manner which will pay back the outlays quickly. This means that science must provide the shipping companies with ideas which have been put into tangible form, experimentally tested and worked out in the form of mock-ups and prototypes.

2. In order to bring an idea to fruition in the form of a product, science must have its own relatively independent financial assets, advanceable to it by the state (as bank credit), by the ministry (from the reserve fund) or the "client" (from the production, science and technology development fund) on a long-term basis (2-3 years).

3. Science increases the assets advanced to it after selling its ideas to a primary promotional enterprise at contracted prices which, in order to eliminate the wage-levelling factor, must take into account the output's scientific and technical level and the economic effect expected from its sales.

4. If no one purchases an idea, science pays back the advance by using profits from sales of other ideas, thereby taking on full material liability for proper distribution and use of the advanced financial assets.

5. By purchasing an idea, the primary promotional enterprise gains economic advantages over successive enterprises by introducing into the Ministry of the Maritime Fleet a system of "internal licenses" which establishes the right of ownership for the first purchaser of an idea on an equal basis with science.

We can draw two extremely important conclusions from the general principles of interaction between science and industry as the sector changes over to full cost accounting and self-financing.

First, in order to provide the prerequisites needed to solve the problem of accelerating scientific and technical progress in maritime transport under the new system of economic management, the entire financial mechanism which now determines the conditions for interaction for those involved in the science industry chain needs to be reorganized so as to form and strengthen the new relationship between money and goods.

Second, industrial science is the least prepared to make this transition to operation under the new system, since it needs to use its own forces to put its ideas into tangible form with no material and technical support and with no experimental base--the Achilles heel of science--of its own.

On the basis of these conclusions, it is evident that we should now consider the task of switching the upper and middle stages of the ministry's economic structure over to economic methods of controlling scientific and technical progress as well.

And if, from these standpoints, the solution to the problem of restructuring the financial mechanism used in controlling scientific and technical progress requires no more than bold and resolute actions on the part of the MMF's administrative staff rather than awaiting orders from "above", then it's going to be very difficult to reorganize the work of the sectorial scientific research institutes and the design bureaus.

What are these difficulties? First of all, the need to solve the theoretical problem of finding out when it is that scientific output, which as we know, is information, takes on the properties of goods, i.e., when it can be sold on the domestic market at prices which reflect publicly needed outlays for labor. In the Ministry of the Maritime Fleet, where the technical manufacturing process is connected to commercial and legal conditions, this problem is particularly complicated, since the final product of the MMF's enterprises is a service, and the scientific research work and drawing and designing work carried out for the purpose of improving this service usually have neither quantitative nor strictly formalized qualitative criteria. We should mention in passing that this is precisely the reason why no practically reliable means of measuring labor productivity has been found within the fleet, in the ports, sea-route administrations, ASPTR [Emergency Rescue, Ship Repair and Underwater Technical Operations] crews, etc.

In order to solve this problem, we need to begin even if only by making it part of the long-term subject plan since according to information we have at our disposal, not a single one of the numerous sectorial scientific research institutes or design bureaus is working on developments in this area nor is work on such developments planned. Clearly, with this attitude to the theory, it will be impossible in actual practice to change over to realizing the extensive opportunities made available to us today by the concept we have adopted to expand socialist money-and-goods relations.

The second difficulty is related to the need to reorganize the organizational and economic mechanism for controlling science in particular and scientific and technical progress overall, which mechanism is presently being used by the MMF.

What needs to be reorganized, and why? We shall attempt to frame a more detailed answer to this question, based on the fact established above that science now has to put its ideas into tangible form as articles. In so doing, we shall use the following axiom as our initial hypothesis: science must realize all its ideas, including associated ideas since, as has been shown by the experience of advanced foreign countries, a basic idea turns out to be competitive only when it is corroborated by dozens, and perhaps even hundreds of less significant ideas. Thus, what shape does the mechanism for controlling scientific and technical progress take, as the MMF changes to self-financing?

Acting on the initiative of the scientific research institute and design bureau administrations, all employees of an organization submit their own or adopted ideas for improving the technology, production methods or organization of labor, production and administration, which are now in use in MMF ports, ship-repair yards and shipping companies.

The ideas are put in writing in two copies accompanied by a sketch (a design or diagram) of the new item, a description of its basic functions and layout, and information on whether it is free or not from prior patent applications. At the request of the inventor, both copies are completed in a notary's office, after which the first copy is sent to the scientific research institute or design bureau patent department to be registered, and the second is sent to the inventor's home address, where it remains unopened, as a legal document, should a contentious situation arise.

The scientific research institute and design bureau administration organizes an expert appraisal of accepted ideas from the standpoint of their originality, their scientific or technological novelty, effective sales potential, the quantity and quality of materials needed to produce a prototype and a rough idea of the cost to realize the ideas. The staff of experts from the scientific research institutes and design bureaus is complemented with consultant-specialists who hold a number of different posts in a number of different fields of knowledge, or in accordance with a one-time contract.

The ideas accepted in accordance with the appraisal are examined by the scientific research institute and design bureau administration and then approved for manufacture.

1. The inventor is charged with developing a program for putting his ideas into tangible form. This program is to show the step-by-step timetable for doing this, the needed fixed and circulating capital, the quantity of wages and the wage fund for the "Temporary Collective for Realizing Ideas" which is specially set up for a period of 1-3 years, and which is staffed as viewed from consideration of the need for carrying out all the operations needed to realize the ideas (on a "turnkey" basis).
2. The scientific research institute and design bureau administrative staff receives advance financial assets for the program (from the "MMF reserve fund", assets from the "customer" or Gosbank credit) and transfers them as per contract to the director of the "Temporary Collective".
3. The director of the "Temporary Collective", acting as a confidential agent for the scientific research institute and the design bureau, concludes contracts with enterprises and organizations for leasing office and production facilities, for acquiring the necessary instruments, equipment, raw materials, special work clothing, tools etc. Moreover, the "Temporary Collective" uses the funds allocated to them to acquire special literature, journals, patents and the technical specifications related to advanced experience, to pay for fuel and electric power, telephone service, office help, a typing bureau, a copying service, for appraisals of patent, for computer time, etc.

4. The scientific research institutes and design bureaus set up minor services for these "Temporary Collectives". Appropriate subdivisions, including an advertising and sales department, a material and technical supply department, etc., are set up for this purpose. These subdivisions operate on a cost-accounting basis.

5. The scientific research institute and design bureau administration uses its "fund supervisors" to supervise the realization of ideas, to see that allocated financial assets are spent correctly by the "Temporary Collectives" and, where necessary, they can suspend the work of these collectives, or else bring it to a complete halt, and charge them with paying for any damages they have incurred in accordance with "special contractual conditions".

6. The "Temporary Collective" places orders related to the realization of ideas (the preparing of designs, scale models, stands, instruments, the conducting of tests etc.) in regional organizations and enterprises. In so doing, the MMF has a rule in effect for the production subdivisions: when filling science-related orders, all wages are put into the enterprise's economic incentive fund. This procedure is the only condition for which nonprofitable smaller scientific orders are given the go-ahead in industry, and this will sharply reduce the science-industry cycle overall.

7. After having done the above in accordance with the program, that is, having put an idea into tangible form, the right of ownership goes to the scientific research institute and design bureau, who sell the technical documentation (as well as the mock-up and prototype) to the initial promotional enterprise--the MMF port, ship-repair yard or shipping company. For monies earned, the scientific research institute and the design bureau pay for the received advance and make a final payment to the "Temporary Collective" which is then disbanded and the in-house funds, or the "development fund" and the "economic incentive fund" are formed.

8. After the idea is transferred, the scientific research institute and the design bureau, through an "introduction department", help the enterprise put the idea into practice and, on an equal footing with the primary promotional enterprise, sell the idea to successive clients with the monies gained thereby transferred into the development and economic incentive funds.

From the above plan for scientific research institutes and design bureaus operating under the new economic management system, it is obvious that their structure and the entire organizational and economic mechanism for controlling scientific and technical progress need to be reorganized from the ground up. All necessary conditions for such a reorganization already exist, and the statute "Use of the Temporary Collective to Work on Solving Long-Term Intersectorial Scientific and Technical Problems, and to Devise and Initiate Production of New Technology, Production Methods and Materials" has already been approved and put into effect, as has the statute "The Temporary Scientific and Production Subdivision", the statute "The Temporary Young People's Creative Collective", the Model Rules of the Cooperative for Procuring and Processing Secondary Raw Materials, which is affiliated with territorial USSR Gosstab agencies, and the USSR Law of Individual Labor Activities.

Practically all the financial, juridical, economic, organizational, supply-related and other questions of the work done by individual employees and "temporary collectives" of enterprises and organizations to solve the various tasks related to accelerating scientific and technical progress in this country are reflected in the above documents. There has been experience abroad (Hungary, Bulgaria, the GDR, the United States and the FRG) and some domestic experience (Kharkov) in formulating a problem in this way. That is why it is unique that for the Ministry of the Maritime Fleet to have an efficiently functioning industrial science, it needs to move beyond indecision, to summarize the existing material which relates to this question into a single document and to disseminate it to the sectorial scientific research institutes and design bureaus.

Otherwise, it will turn out that the MMF has no need for a sectorial science!

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